

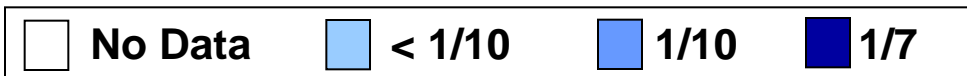
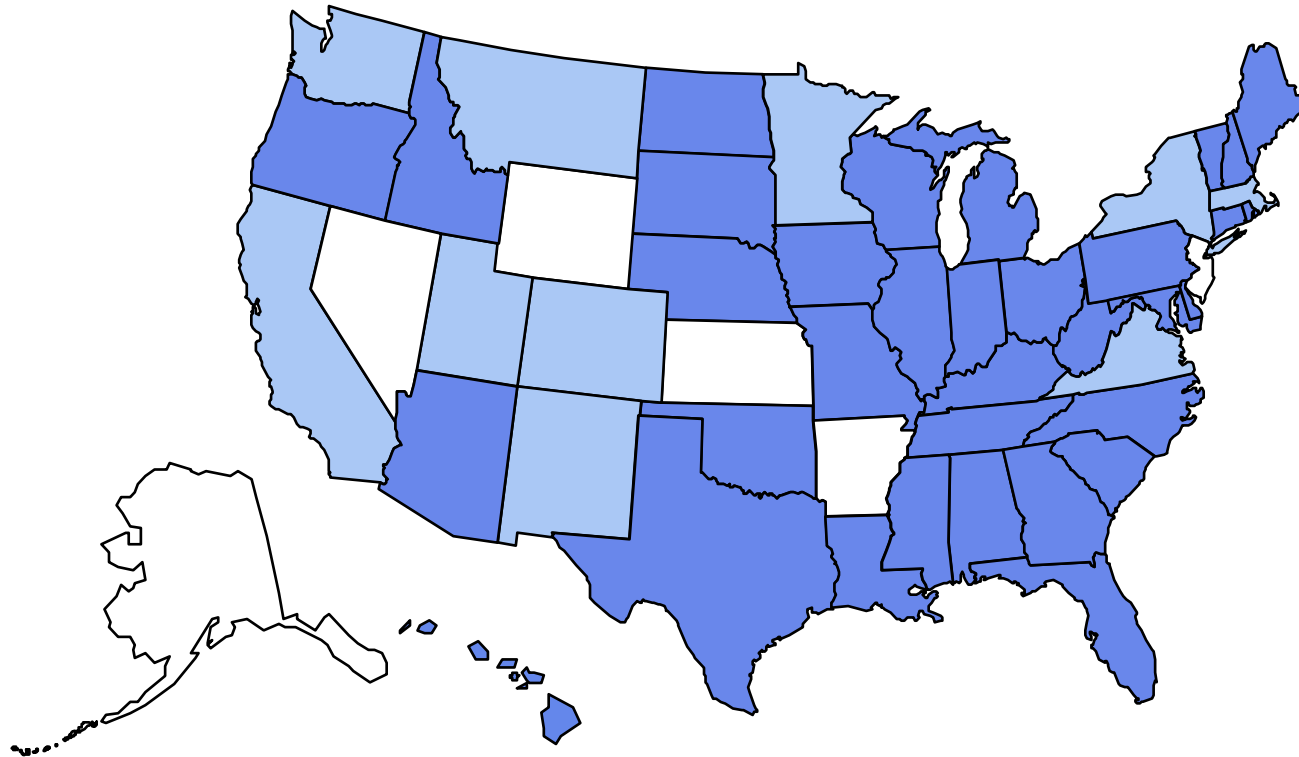
Pediatric Obesity: Complex Simplicity

Joseph A. Skelton, MD, MS
Wake Forest University School of Medicine

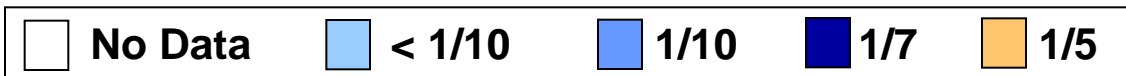
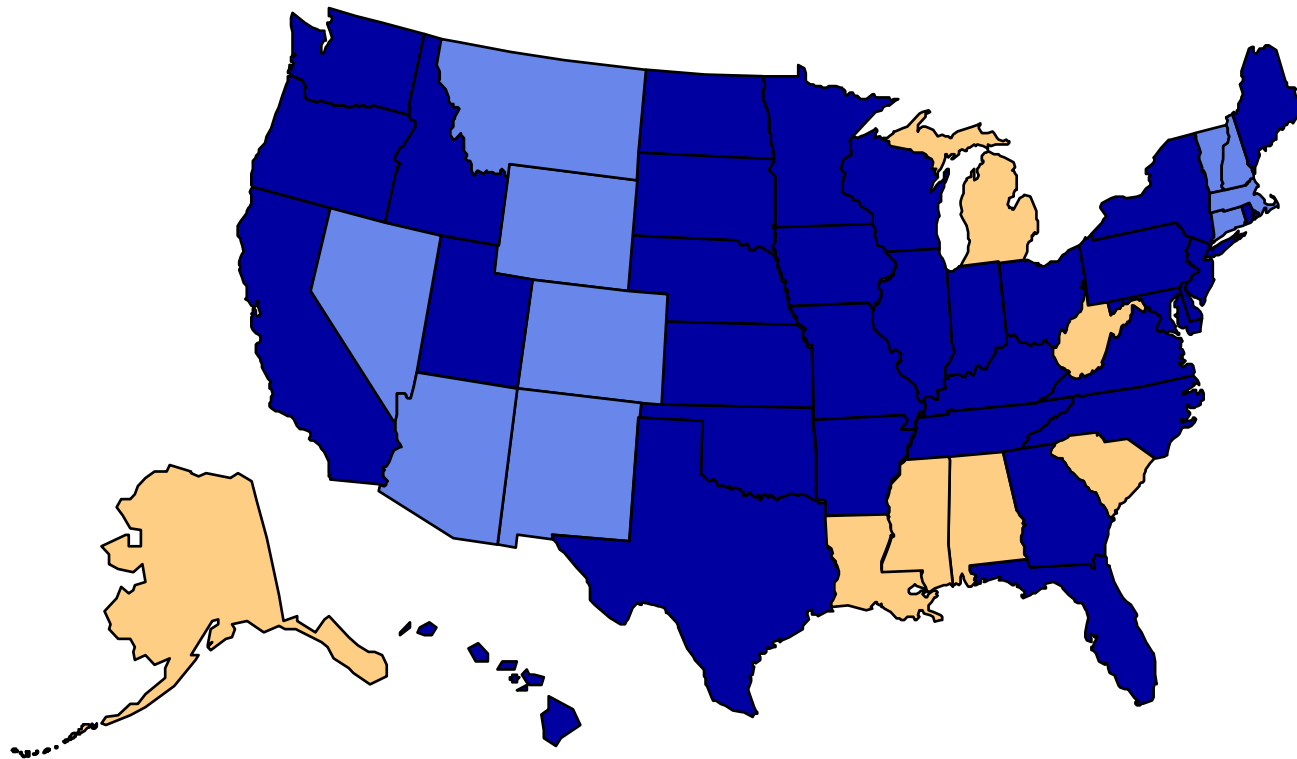


Epidemic of Obesity?

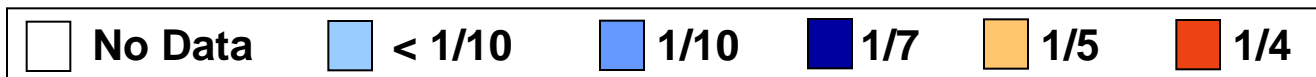
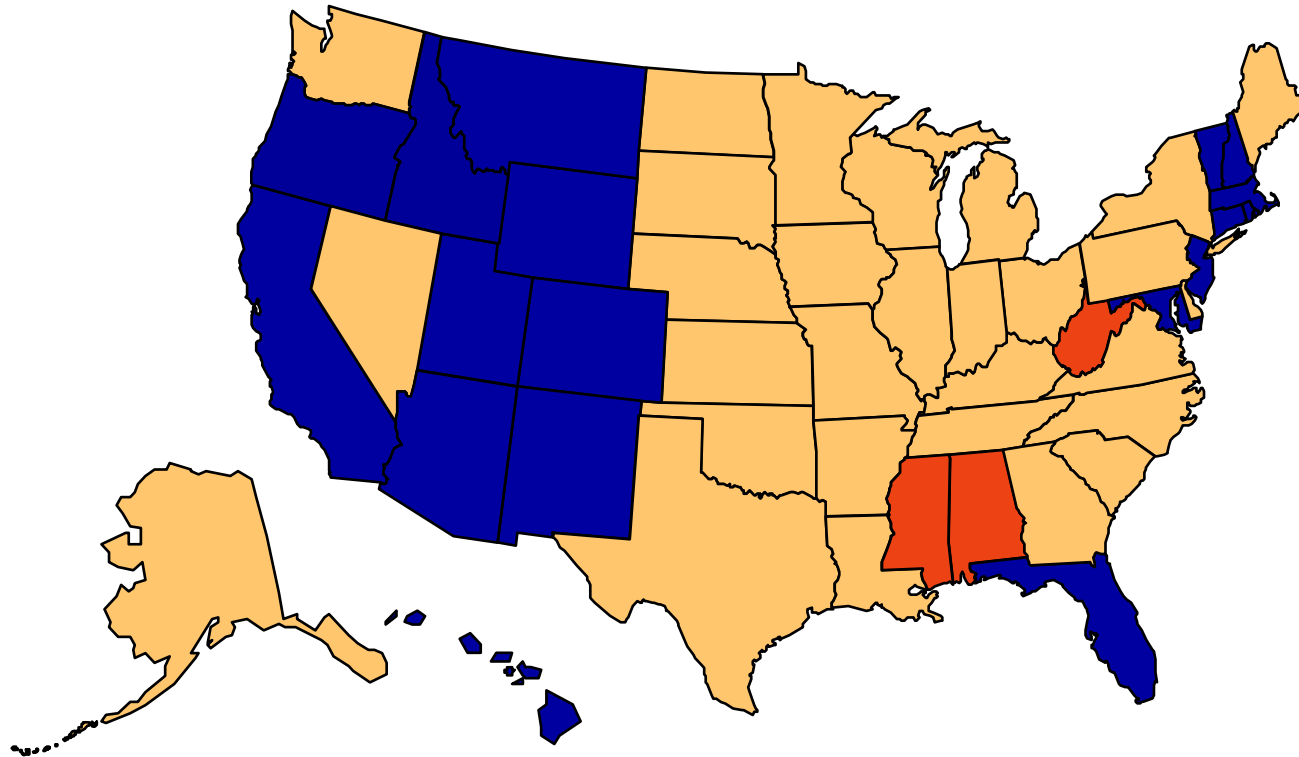
Obesity Trends 1990



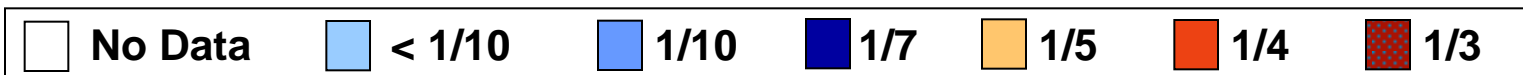
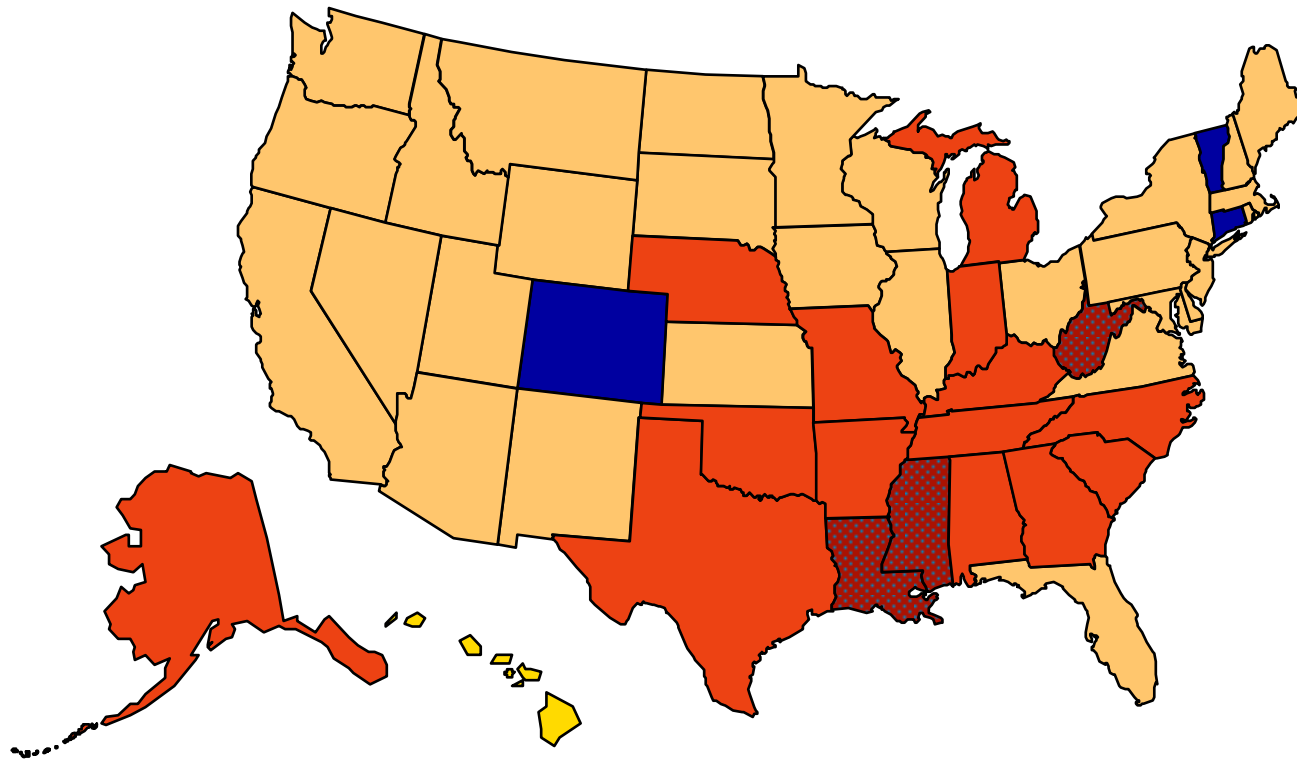
Obesity Trends 1998



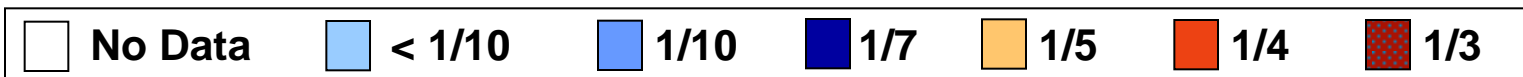
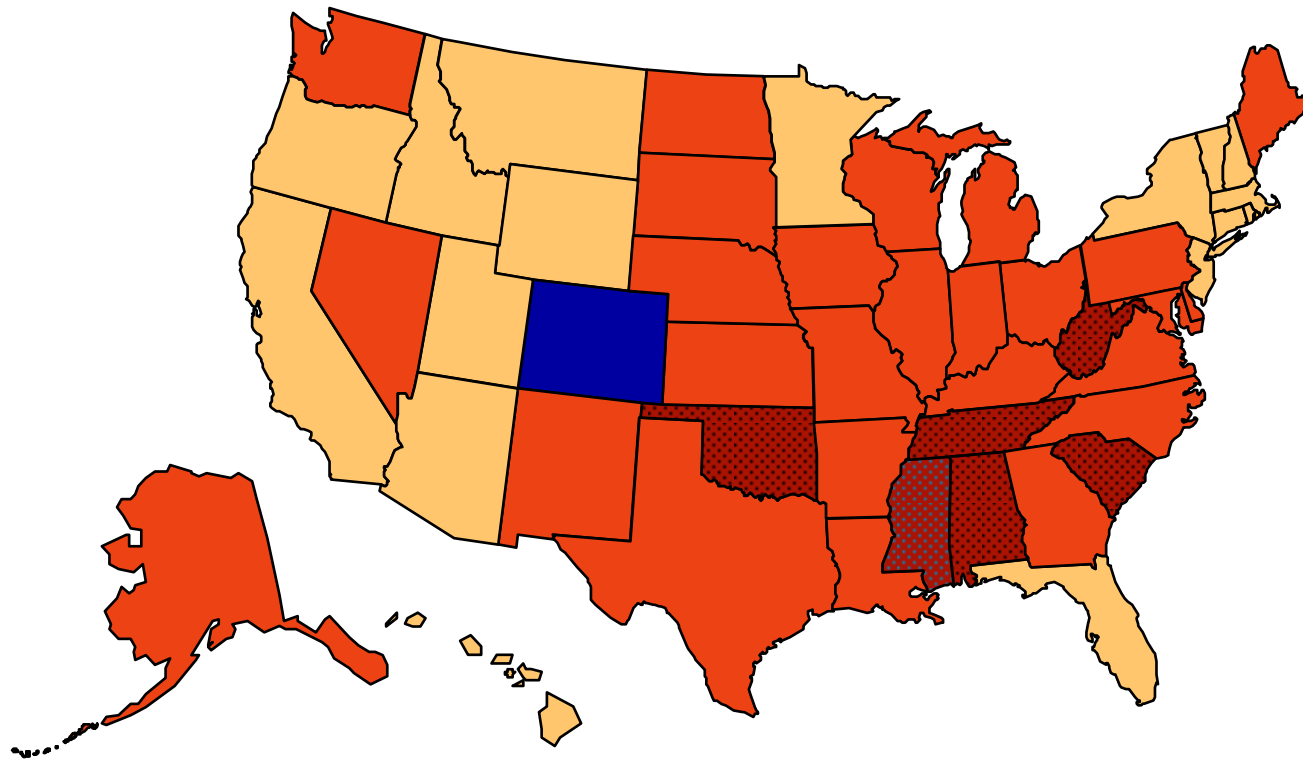
Obesity Trends 2002



Obesity Trends 2005

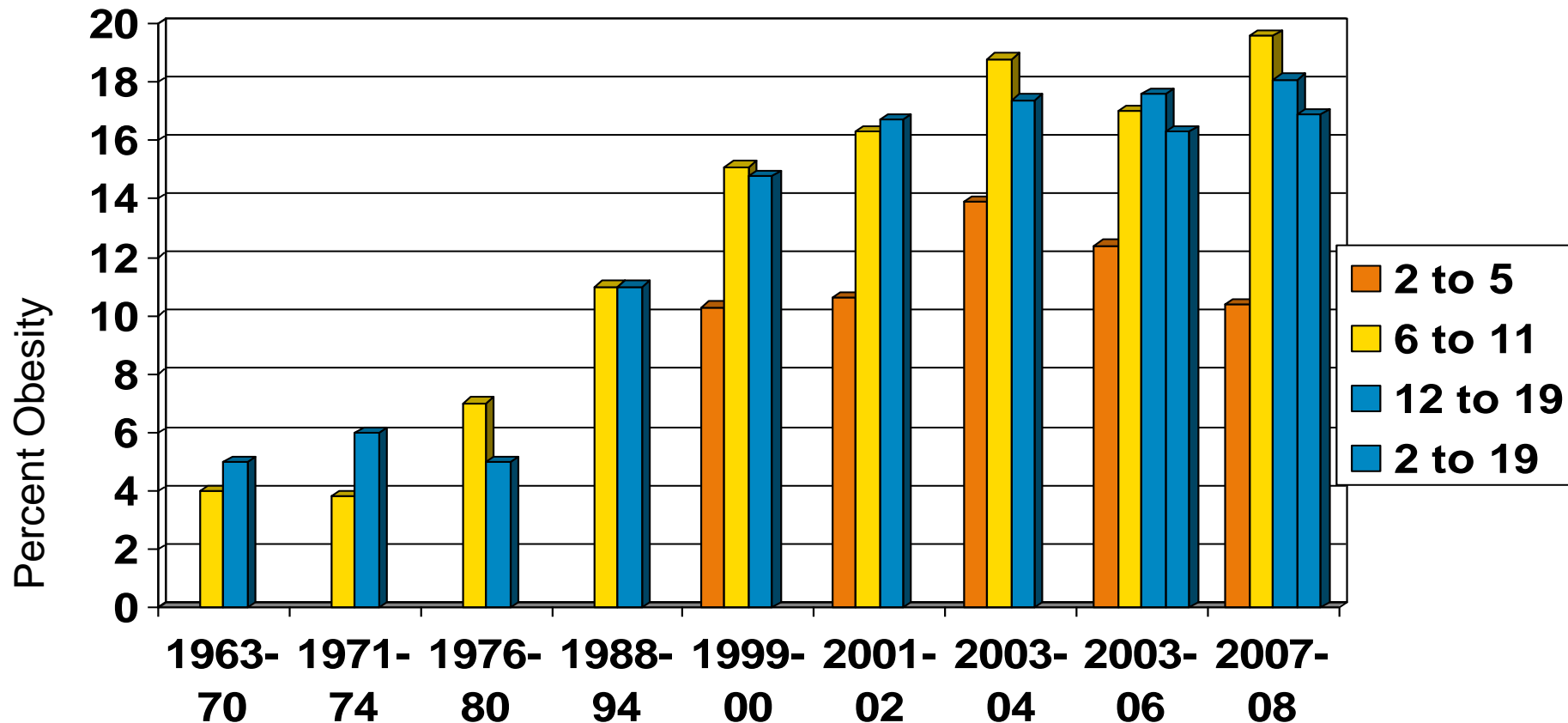


Obesity Trends 2008



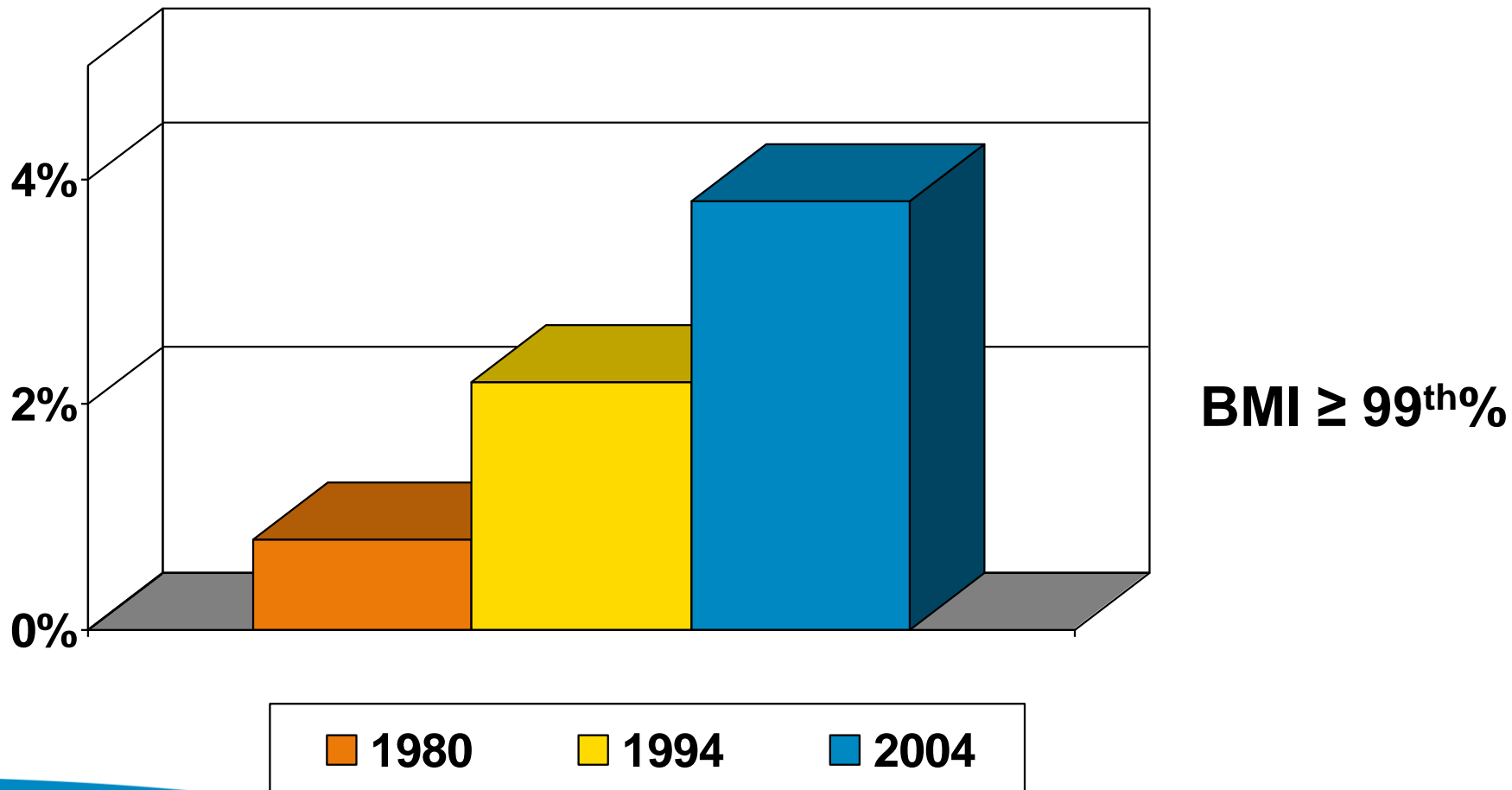


The Spread of Obesity in Children



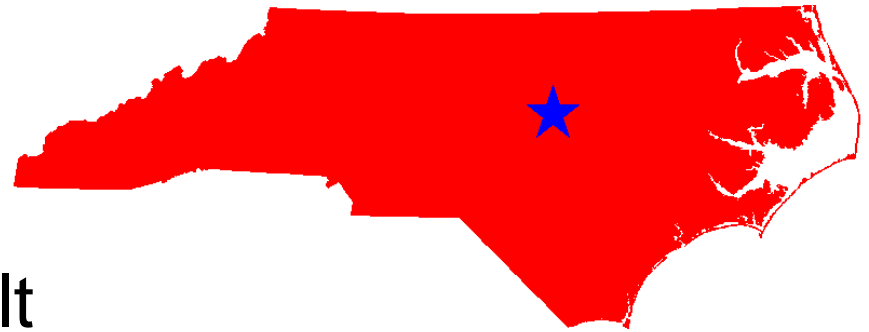
Source: CDC/NCHS, NHES and NHANES

Severe Obesity in Children



North Carolina?

- Nearly 1/3 of children 10-17 years old are overweight or obese
 - 41% of African-Americans are overweight or obese
- Questionable rankings
 - 5th in childhood obesity
 - 10th in overall obesity
- Stroke Belt vs Bible Belt



2 out of 3
Adults



1 out of 3
Children



What are Overweight and Obesity?

Body Mass Index (BMI)

**Relationship of weight to height
(age and gender)**

$$\text{BMI} = \text{Weight}/\text{height}^2$$

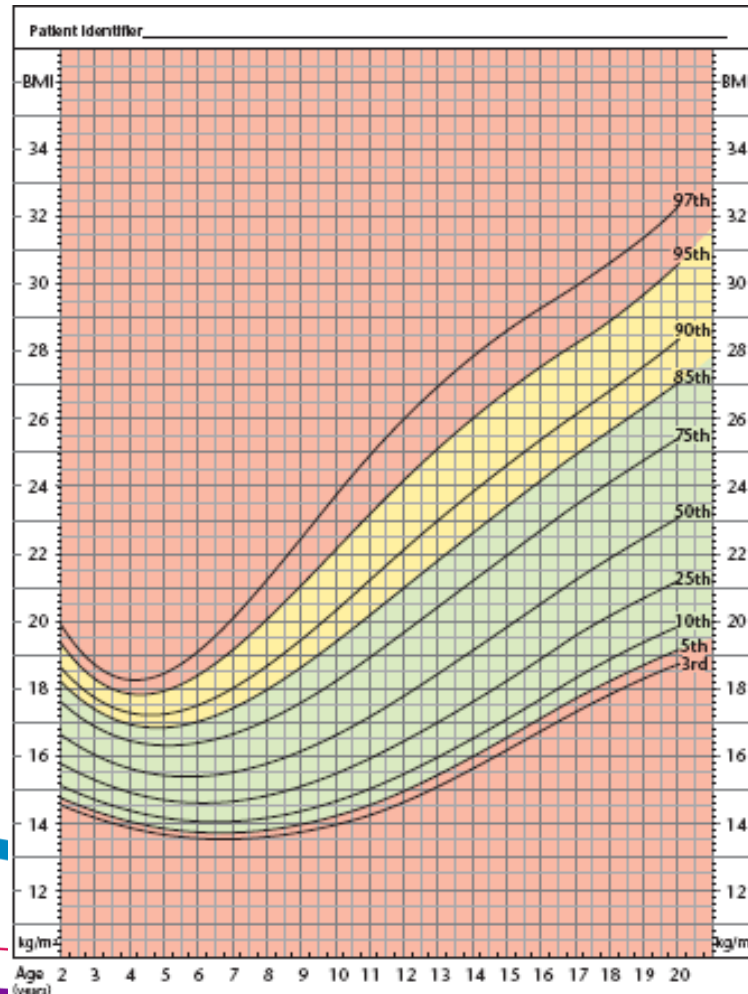
Adults- BMI

< 18	Underweight
18-25	Normal weight
25-30	Overweight
>30	Obese

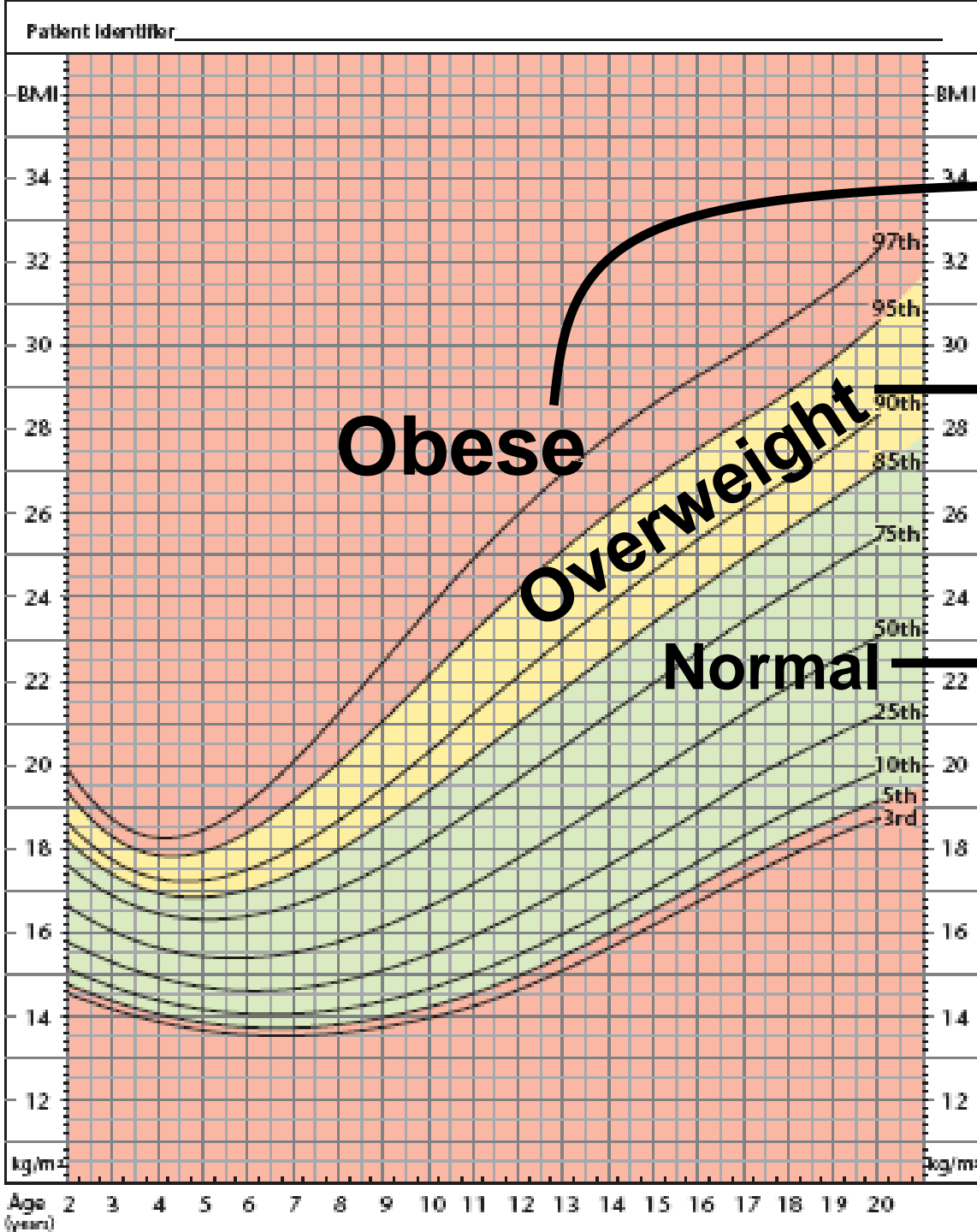
What are Overweight and Obesity?

Body Mass Index (BMI)

**BMI
Percentiles**



**Relationship of
weight to height
(age and gender)**



Adult Classification

$\geq 95^{\text{th}}$ %ile
= $\geq 30 \text{ kg/m}^2$

$85^{\text{th}} - <95^{\text{th}}$ %ile
= $25 - <30 \text{ kg/m}^2$

$5^{\text{th}} - <85^{\text{th}}$ %ile
= $18 - <25 \text{ kg/m}^2$

BMI and Children

What's the Difference?

110 Pounds

9 years old

5 feet tall

BMI = 22

110 Pounds

14 years old

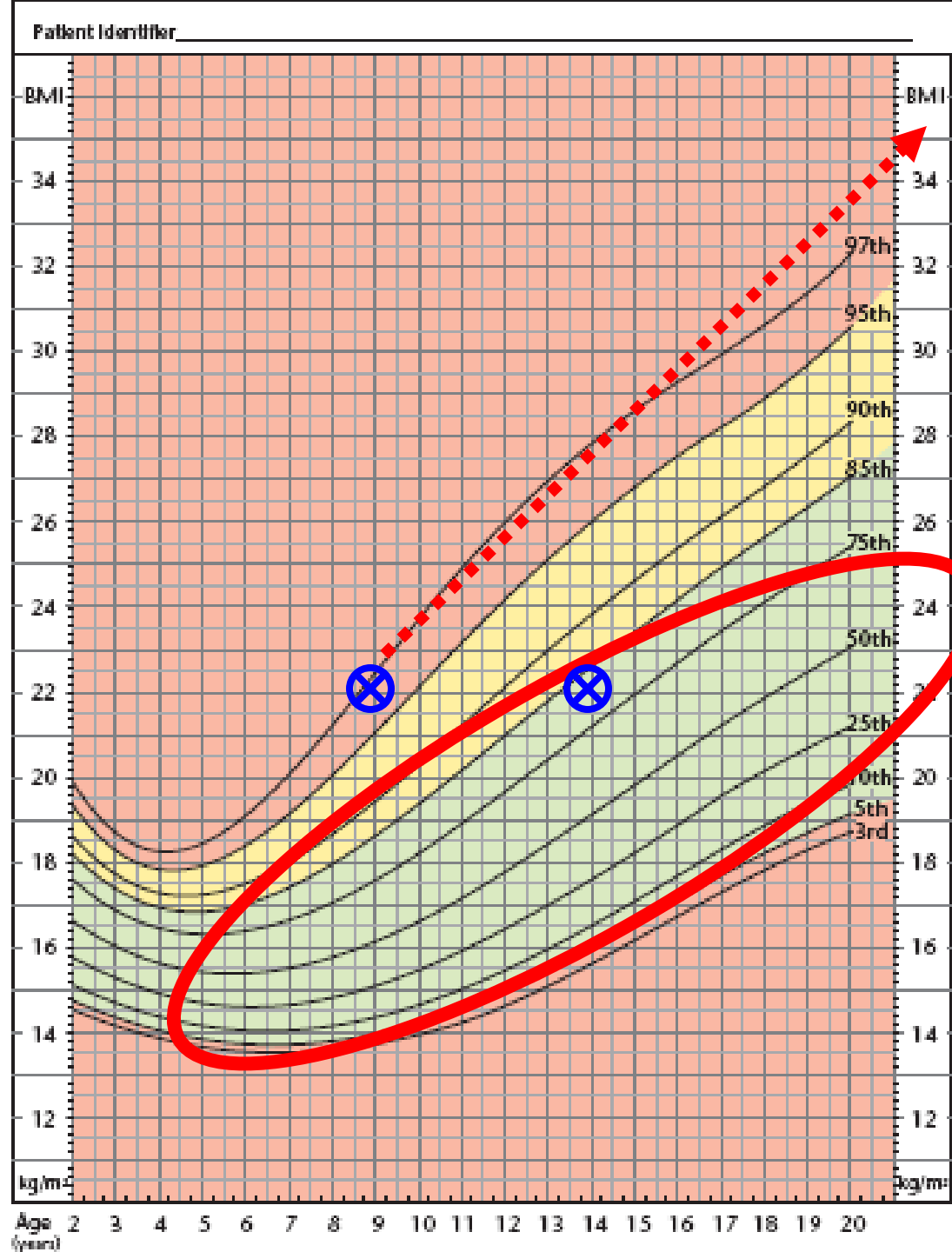
5 feet tall

BMI = 22



Trajectory

Body Mass Index (BMI)



Appropriate weight for height?



3 year old male
30 lbs
37 inches

BMI = 15.4 kg/m^2
30th percentile

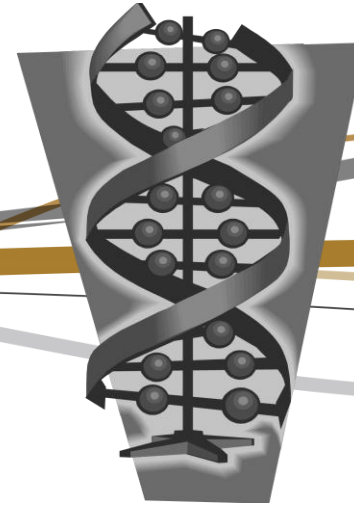
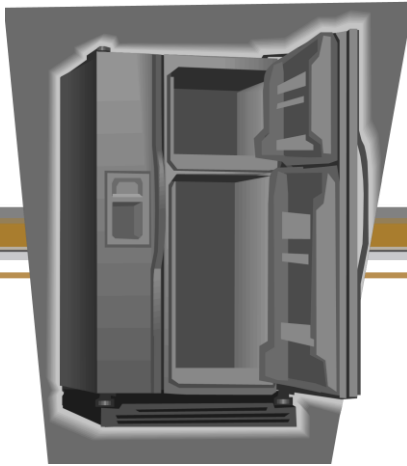
Appropriate weight for height?

7 year old male
60 lbs
49.5 inches

BMI = 17 kg/m^2
83rd percentile



How Has This Happened?



Nutrition + Exercise + Genetics

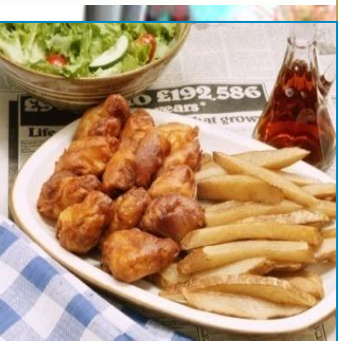
How much & What we eat

We don't move enough

Our bodies are made to store fat



We live in an
unhealthy world





“The Toxic Environment”

“It is hard to envision an environment more effective than ours for producing obesity” Battle and Brownell 1996

- 170,000+ fast food restaurants in US
 - \$12 billion/yr spent on marketing food to parents and children
 - \$12 million spent between 1989-2000 by the sugar industry on candidates for Congress
-

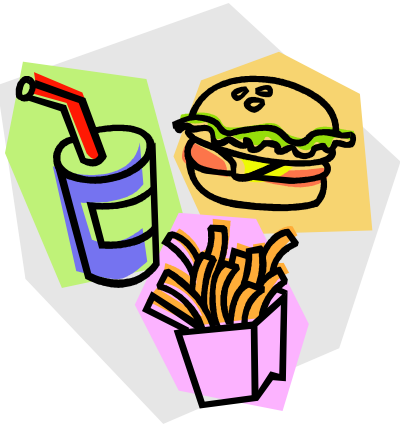
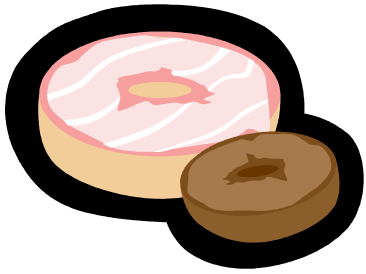
IF WE EAT LESS AND EXERCISE MORE-WHO PROFITS?

Nutrition- Not So Simple

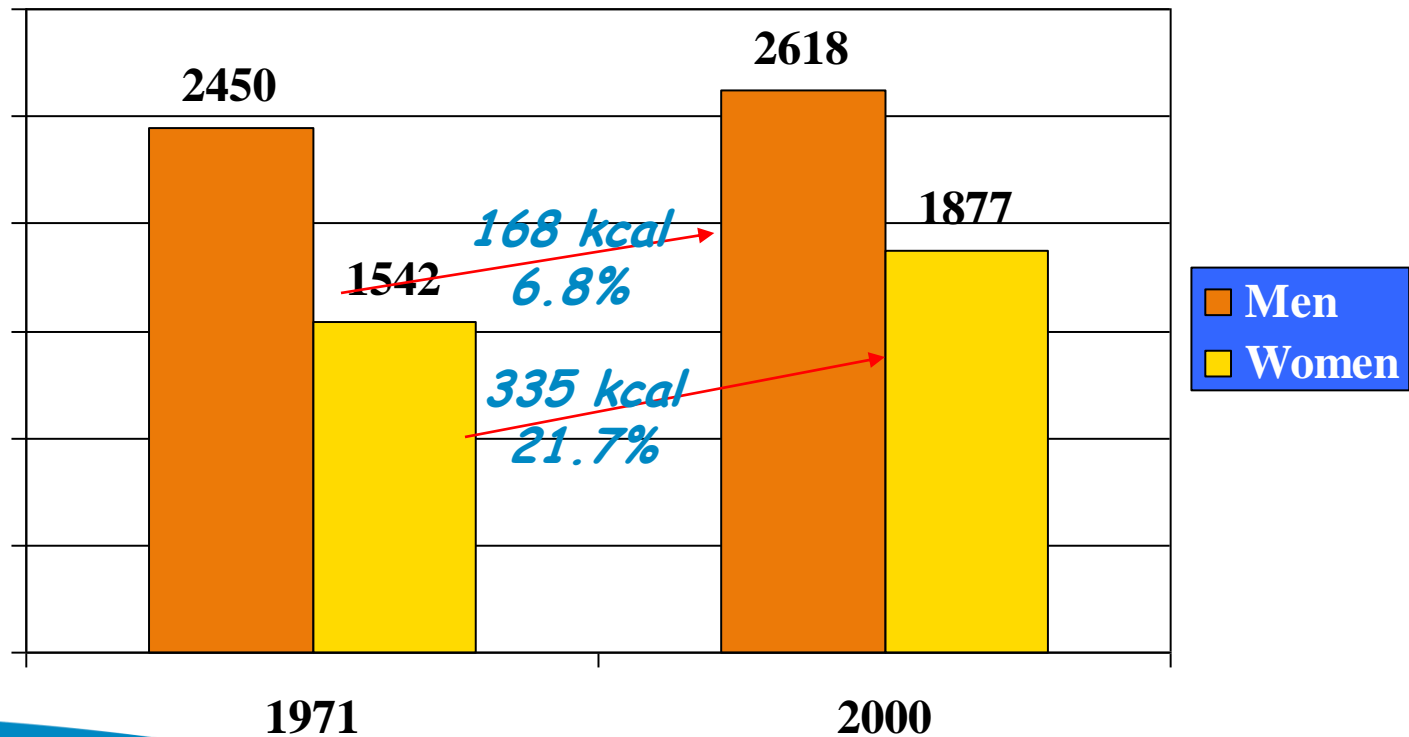
How much we eat

What we eat

How we eat



Nutrition- Not So Simple



BAGELS

20 Years Ago



**140 calories
3-inch diameter**

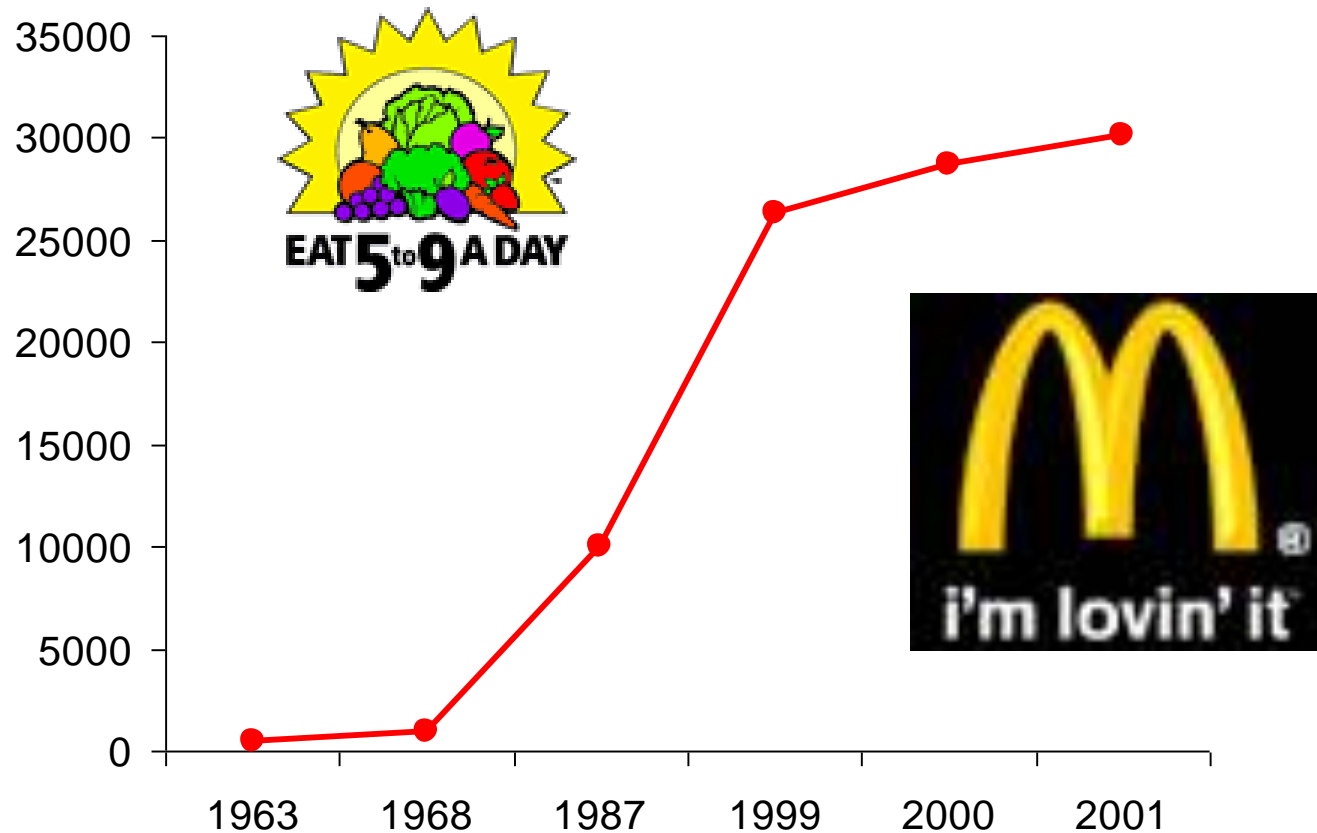
Today



**350 calories
6-inch diameter**

Calorie Difference: 210 calories

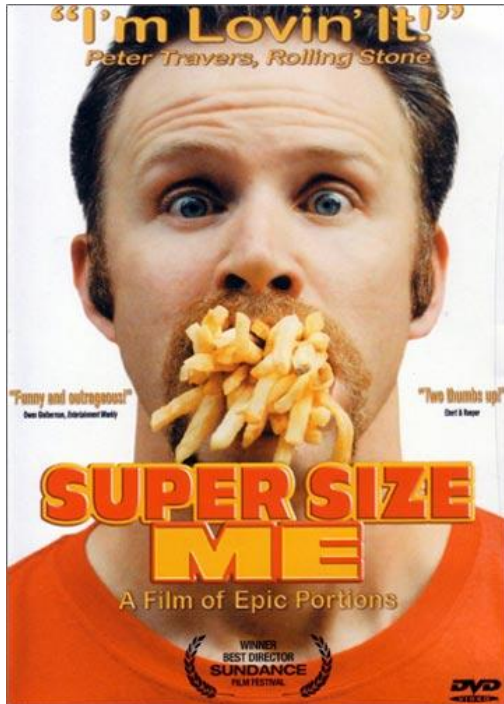
Fast Food Restaurant Growth Worldwide



Source: Fast Food Corporation

“Super-Sized Generation”

Fast Food French Fry Servings



Year	Calories per serving
1960s	200 Kcal
1970s	320 Kcal
Mid 1990s	450 Kcal
Late 1990s	540 Kcal
2000	610 Kcal

Fast Food Hype



**Chicken Selects®
Premium Breast Strips
(5 pc)**

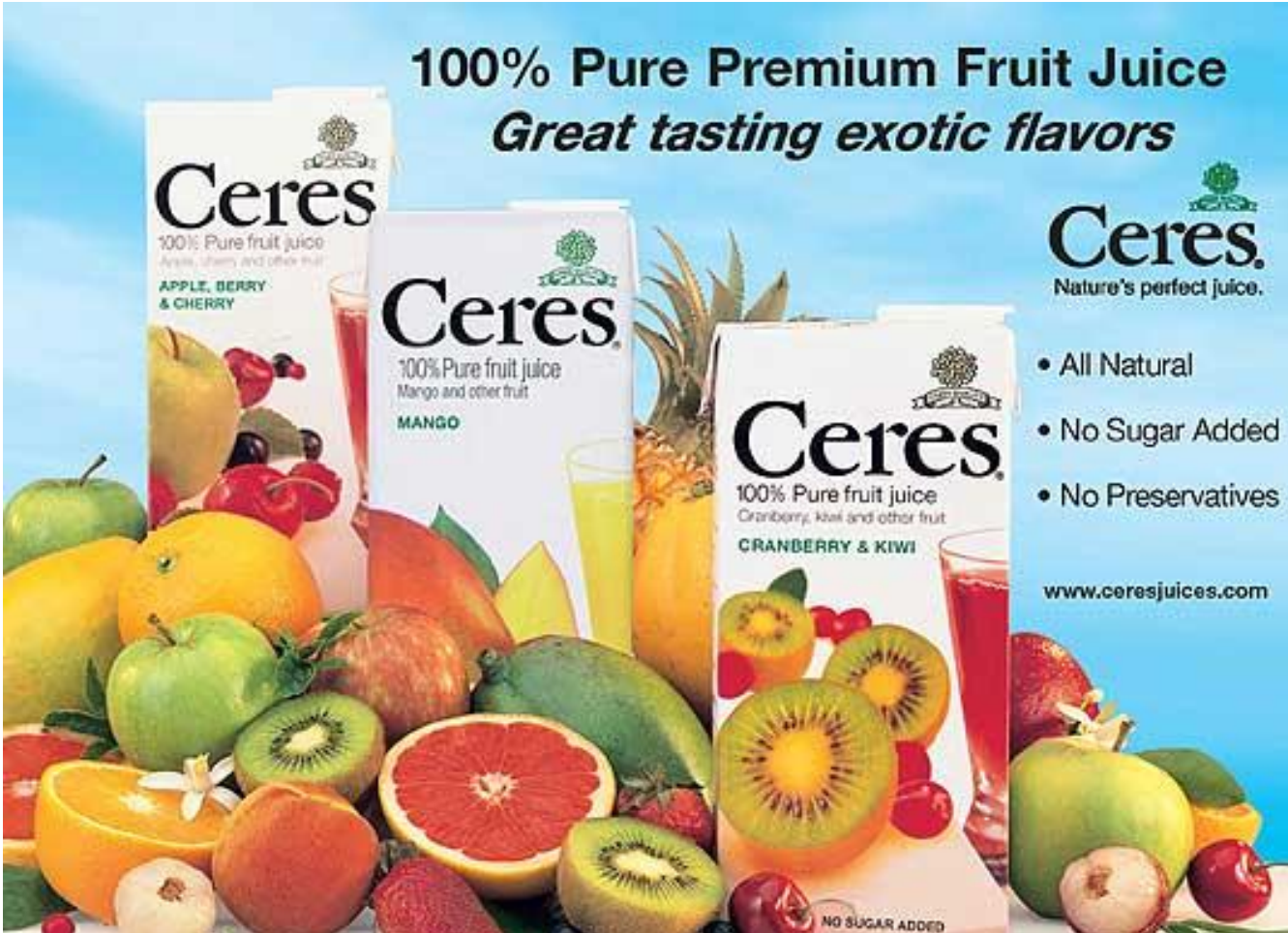
Calories	630
Fat	33g
Trans fat	4.5
Fiber	0



Quarter Pounder® with Cheese

Calories	510
Fat	26g
Trans fat	1.5g
Fiber	3

100% Pure Premium Fruit Juice
Great tasting exotic flavors



Ceres
100% Pure fruit juice
Apple, cherry and other fruit
APPLE, BERRY & CHERRY

Ceres
100% Pure fruit juice
Mango and other fruit
MANGO

Ceres
100% Pure fruit juice
Cranberry, kiwi and other fruit
CRANBERRY & KIWI

Ceres
Nature's perfect juice.

- All Natural
- No Sugar Added
- No Preservatives

www.ceresjuices.com

NO SUGAR ADDED

Where is the Fruit?

FOOD LABELS FOR TWO STUDY BRANDS

*Sugars are highlighted in bold

Apple Cinnamon Cheerios: Whole grain oats, **sugar**, **brown sugar**, cornmeal, corn starch, **corn syrup**, dried apple pieces, canola and/or rice bran oil, calcium carbonate, salt, cinnamon, trisodium phosphate, zinc, and iron, vitamin C, a B vitamin, artificial flavor, vitamin B6, vitamin B2, vitamin B1, vitamin A, a B vitamin, vitamin B12, vitamin D, wheat starch, vitamin E



Strawberry Splash Yoplait Go-Gurt Yogurt:

Cultured pasteurized grade A milk, **sugar**, **high fructose corn syrup**, nonfat milk, modified corn starch, kosher gelatin, tricalcium phosphate, natural and artificial flavor, potassium sorbate, carrageenan, red #40, blue #1



Products	Brands
	Apple Cinnamon Cheerios, Apple Jacks, Berry Burst Cheerios (<i>Strawberry Banana</i> , <i>Triple Berry</i>), Eggo Waffles (<i>Apple Cinnamon</i> , <i>Blueberry</i> , <i>Strawberry</i>), Kellogg's Pop Tarts (<i>Strawberry</i>), Quaker Chewy 90 Calorie Granola Bars (<i>Baked Apple</i>), Smucker's Jam (<i>Strawberry</i>), Fruit by the Foot (<i>Strawberry</i>), Fruit Rollups (<i>Strawberry</i>), Gushers Fruit Snack (<i>Strawberry</i>)
	Capri Sun Fruit Waves (<i>Grape</i>), Juicy Juice
	5% Juice Drink: Sunny Delight Fruit Drinks 10% Juice Drink: Capri Sun Juice Drink (<i>Strawberry</i>), Hi-C Fruit Drinks (<i>Boppin' Strawberry</i>), Kool-Aid Jammers Food Products: Popsicle (<i>Orange</i> , <i>Cherry</i> , <i>Grape</i>), Skittles, Starbursts
	Beverages: Nestle Nesquick Milk and Drink Mix (<i>Strawberry</i>), Tang Food Products: Air Heads, Berry Berry Kix, Bubble Tape, Captain Crunch with Crunch Berries, Dannon Danimals XL (<i>Strawberry Explosion</i>), Froot Loops, Fruity Cheerios, Juicy Fruit Gum, Life Savers (<i>Wild Cherry</i>), Post Fruity Pebbles, Push Pop (<i>Cherry</i>), Ring Pop (<i>Cherry</i>), Trix Cereal, Trix Yogurt (<i>Strawberry Kiwi</i>), Twizzlers, Yoplait Go-Gurt Yogurt (<i>Strawberry Splash</i>)

Sweetened Beverages



20 oz

250 calories

17 teaspoons sugar



42 oz

410 calories

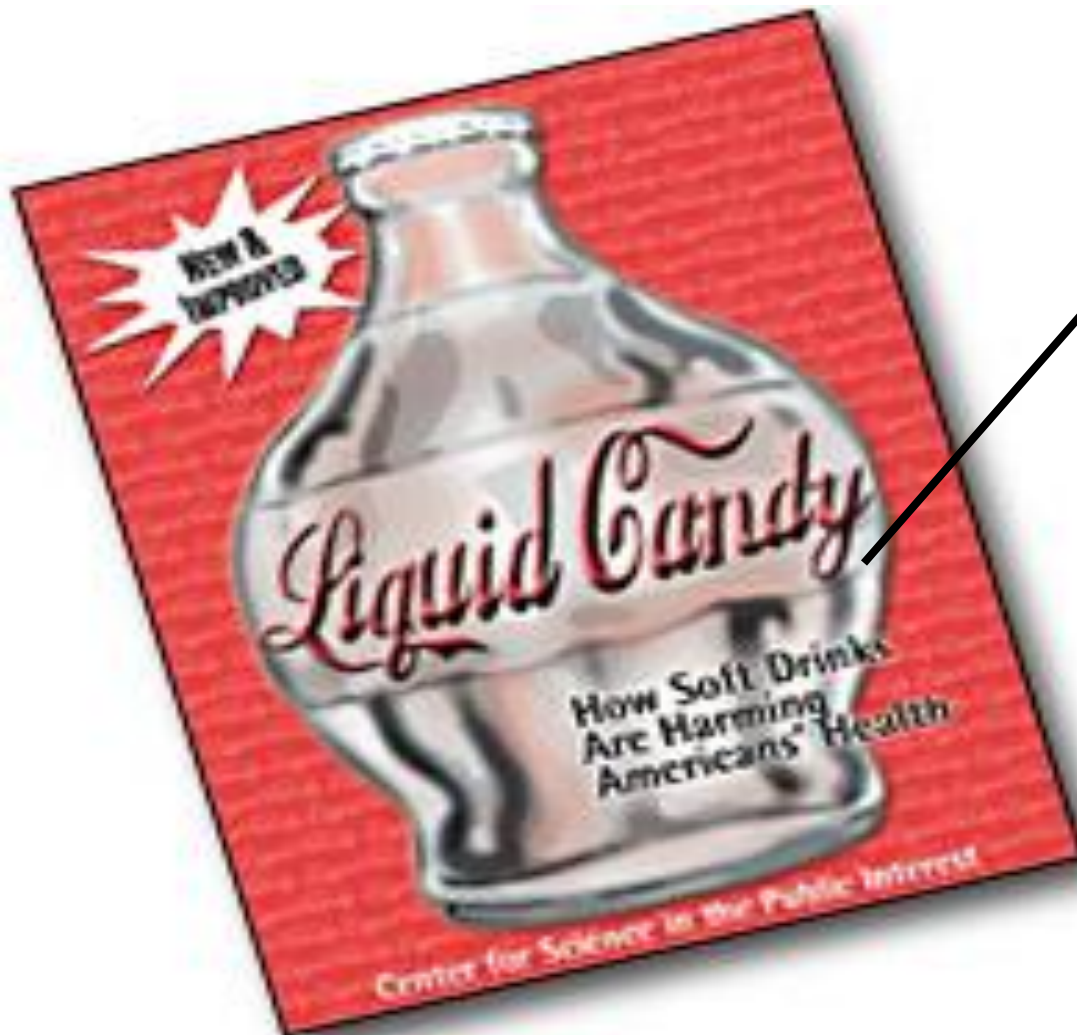
35 teaspoons sugar

Cost of Soda
\$1.29

Actual Cost to Restaurant
10¢

Cost to Our Health
Priceless

Sweetened Beverages



WARNING:
May cause obesity

NO SATIETY
HIGH FRUCTOSE CORN SYRUP
EVERYWHERE

Wieliczka,
Poland

June, 2008



Eco Logic

- The Japanese eat very little fat and suffer fewer heart attacks than the British or Americans.
- The French eat a lot of fat and also suffer fewer heart attacks than the British or Americans.
- The Japanese drink very little red wine and suffer fewer heart attacks than the British or Americans.
- The Italians drink excessive amounts of red wine, and also suffer fewer heart attacks than the British or Americans.

Therefore

Eat and drink what you like,

It's speaking English that kills you

ENERGY EXPENDITURE ESTIMATES

1 million yr	Hunter-gatherers	5000 cal
10,000 yr	Agriculture	6000 cal
1915	Laborers	3000 cal
NOW	Physicians (non-flu season)	1800 cal



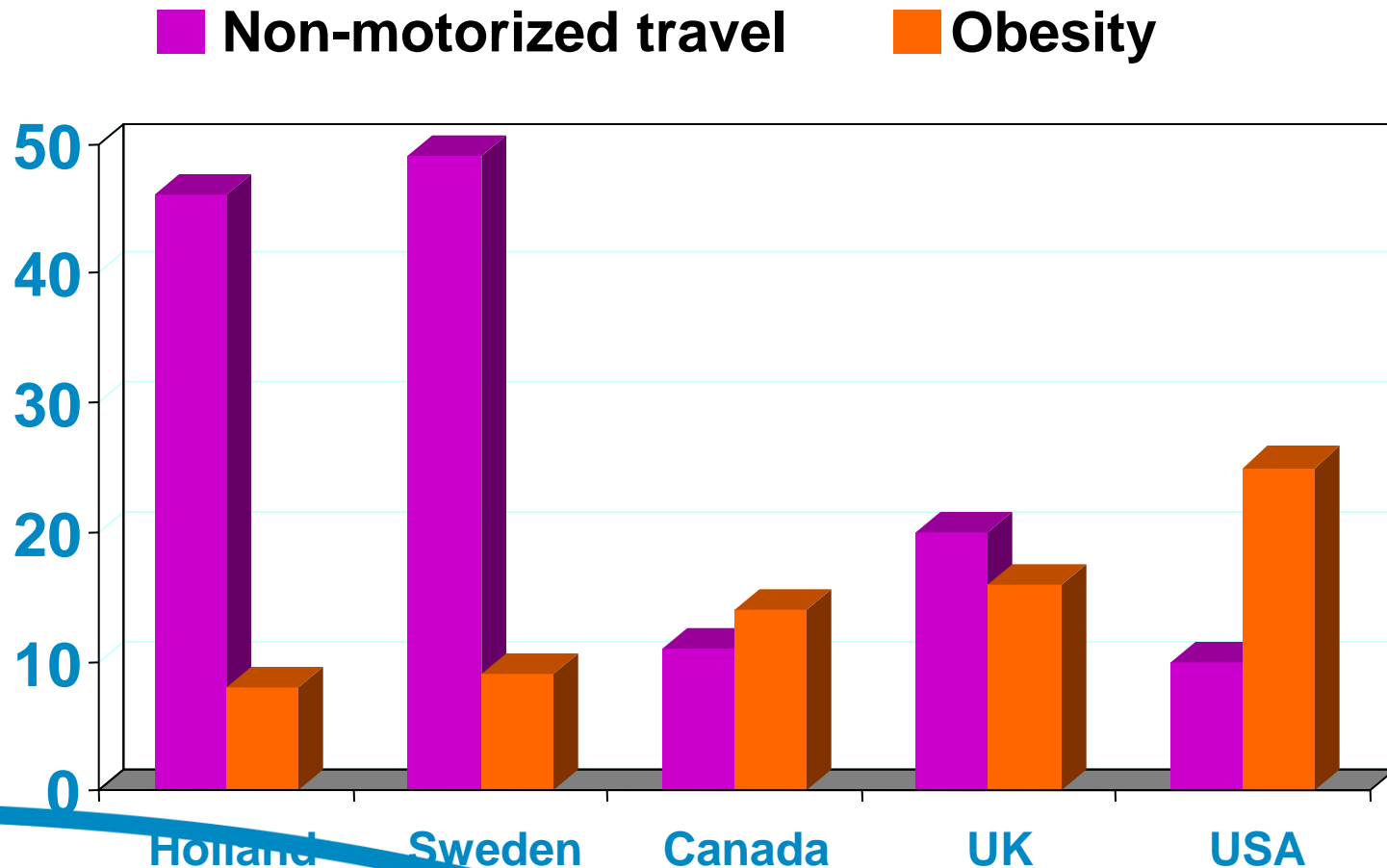
Television

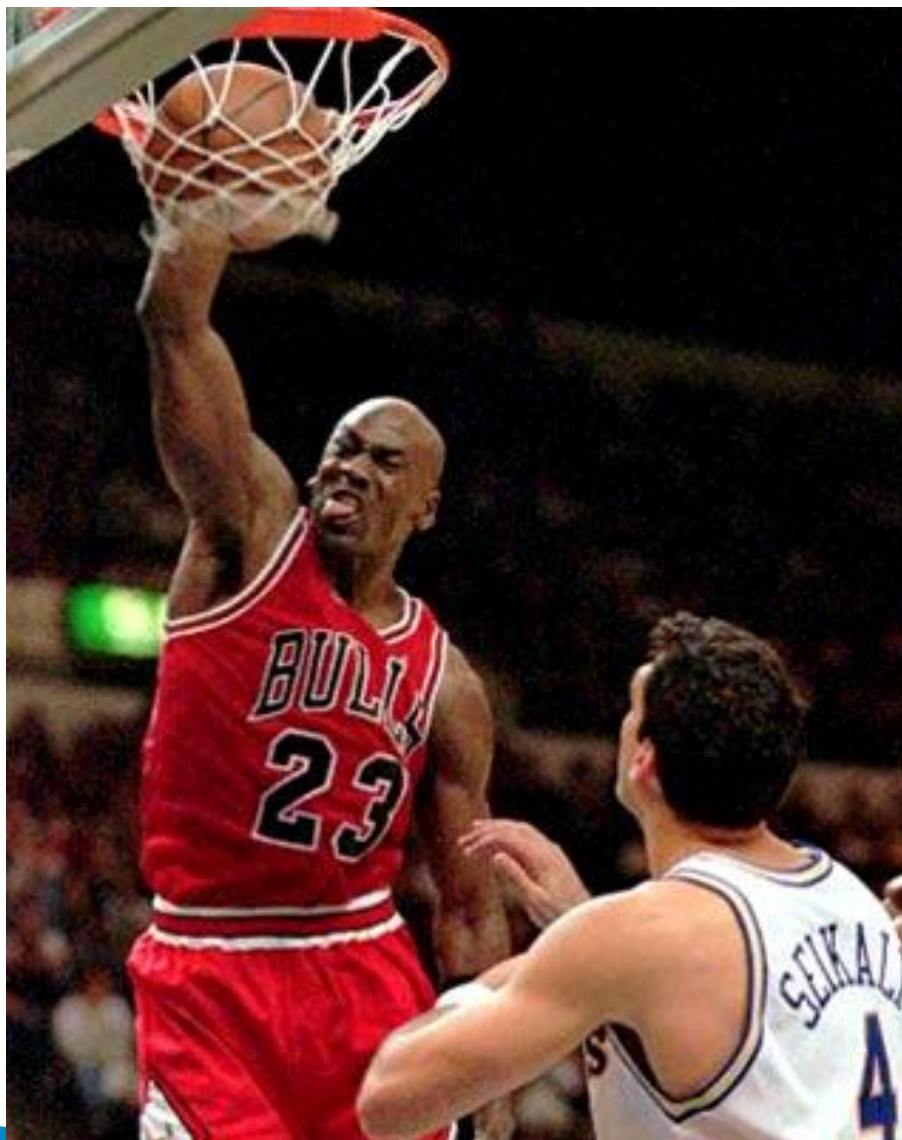
- Children watch > 20 hours of TV per week
20 hours/week X 10 food commercials/hour =
200 commercials/wk
- TV in the bedroom increases viewing by 38 min
- Television increases caloric intake and decreases resting metabolic rates
- Television is independently linked to obesity
 - Robinson *JAMA* 1999: Prospective study of 2 schools showed relative decrease in BMI and body fat in intervention school

Exercise Activity



Non-Motorized Travel and Obesity: 2000







INactivity



NOKIA







Unbalanced

AVAILABLE
3800 Calories/day

NEED
2000 Calories/day



The Nag Factor

- Study done by Western Media
- Goal- how can advertising help children nag their parents more efficiently
- Studied children's nagging and how it worked on parents



The Nag Factor

Findings

- 2 types of nagging
 - Repetitive: “Please, please, please, please...”
 - Purposeful: “Please get me that toy- it will help me with homework and hand-eye coordination”
- Purposeful nagging is more effective
 - Especially with parents immune to nagging
- Ads changed
 - Equip children with reasons



The Drool Factor





Toaster Strudel

PASTRIES

OFFICIAL PRODUCT



6

TOASTER
PASTRIES

NET WT 11.5 OZ (326g)

Made With
REAL
Apples

APPLE

REAL FRUIT AND ARTIFICIAL APPLE FLAVOR

INGREDIENTS: ENRICHED FLOUR BLEACHED (WHEAT FLOUR, MALTED BARLEY FLOUR, NIACIN, FERROUS SULFATE, THIAMIN MONONITRATE, RIBOFLAVIN, FOLIC ACID), WATER, PARTIALLY HYDROGENATED SOYBEAN AND COTTONSEED OIL, SUGAR, HIGH FRUCTOSE CORN SYRUP, CORN SYRUP, CORN STARCH, MODIFIED CORN STARCH, APPLES (10% OF FILLING), DRY YEAST, SALT, DEXTROSE, WHEY, EGG YOLK, BAKING POWDER (BAKING SODA, SODIUM ACID PYROPHOSPHATE), CORN SYRUP SOLIDS, YELLOW 5, RED 40 AND OTHER COLOR ADDED, CITRIC ACID, CINNAMON, SODIUM CITRATE, MONO AND DIGLYCERIDES, POTASSIUM SORBATE AND SODIUM BENZOATE (PRESERVATIVES), XANTHAN GUM, NATURAL & ARTIFICIAL FLAVOR, LOCUST BEAN GUM, GUAR GUM, POLYSORBATE 60.

CONTAINS EGG, MILK AND WHEAT INGREDIENTS.

© 2004 The Pillsbury Company

3060244204

Nutrition Facts

Serving Size 1 Pastry (54g)

Servings Per Container 6

Amount Per Serving

Calories 190

Calories from Fat 80

% Daily Value*

Total Fat 9g **13%**

Saturated Fat 2g **10%**

Trans Fat 2g

Cholesterol 5mg **2%**

Sodium 180mg **8%**

Total Carbohydrate 26g **9%**

Dietary Fiber 0g **0%**

Sugars 10g

Protein 2g

Vitamin A 0% • Vitamin C 0%

Calcium 0% • Iron 4%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g



INGREDIENTS: FRUIT JUICE FROM CONCENTRATES (APPLE, PEAR), CORN SYRUP, SUGAR, MODIFIED CORN STARCH, CONTAINS 2% OR LESS OF: PECTIN, CITRIC ACID, DEXTROSE, SODIUM CITRATE, VITAMIN C (ASCORBIC ACID), MALIC ACID, COLOR (RED 40, BLUE 1, YELLOWS 5&6 AND OTHER COLOR ADDED), MINERAL OIL*, POTASSIUM CITRATE, NATURAL & ARTIFICIAL FLAVOR, CARNAUBA WAX, SULFITING AGENTS, BEESWAX. *ADDS A TRIVIAL AMOUNT OF FAT.

DISTRIBUTED BY
General Mills Sales, Inc.
 GENERAL OFFICES
 MINNEAPOLIS, MN 55440 USA
 Made in U.S.A. © 2004 General Mills

Nutrition Facts

Serving Size 1 pouch (25g)
 Servings Per Container 10

Amount Per Serving

Calories 80

Calories from Fat 0

% Daily Value*

Total Fat 0g **0%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0g **0%**

Sodium 50mg **2%**

Total Carbohydrate 21g **7%**

Sugars 14g

Protein 0g

Vitamin C 100%

Not a significant source of dietary fiber, vitamin A, calcium and iron.

*Percent Daily Values are based on a 2,000 calorie diet.

Carbohydrate Choices: 1 1/2

© 2004 Sesame Workshop/Columbia TriStar Television Distribution. "Dragon Tales" and its logo are trademarks of Sesame Workshop and Columbia TriStar Television Distribution.

All rights reserved.

Credit: Character Design by Ron Rodecker.



School Food Policy and BMI

- Can students have food in class?
- Can students have drinks in class?
- Can students have snacks in hallways?
- Can students have drinks in hallways?
- Is food used as a reward or incentive?
- Does classroom fundraising include food sales?
- Does school-wide fundraising include food sales?

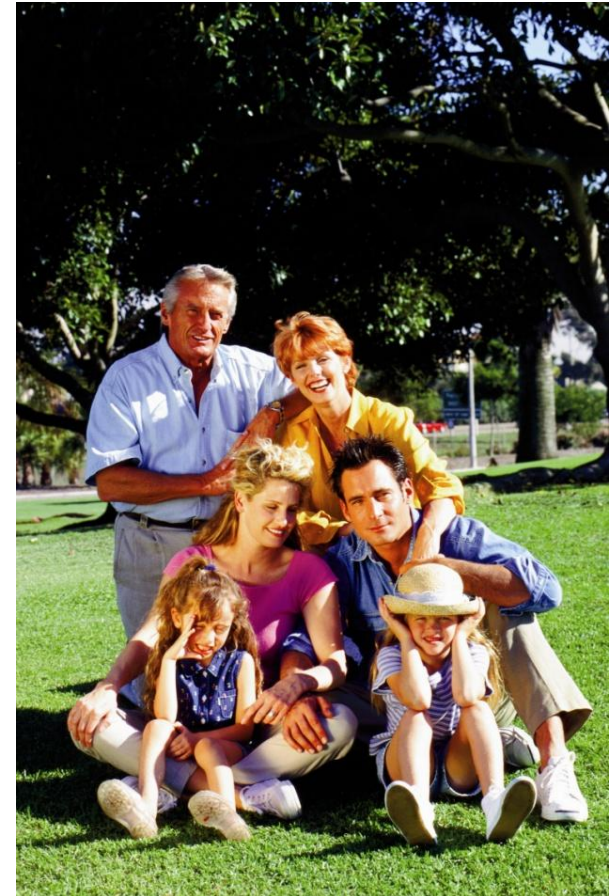
Kubik Archives of Pediatrics & Adolescent Medicine 2005. 159:1111-4

Families- Mayberry No Longer

- **Single Parents**
- **Dual Working Parents**
- **Over-scheduling**
 - **Busy does not mean active**
- **Homework**

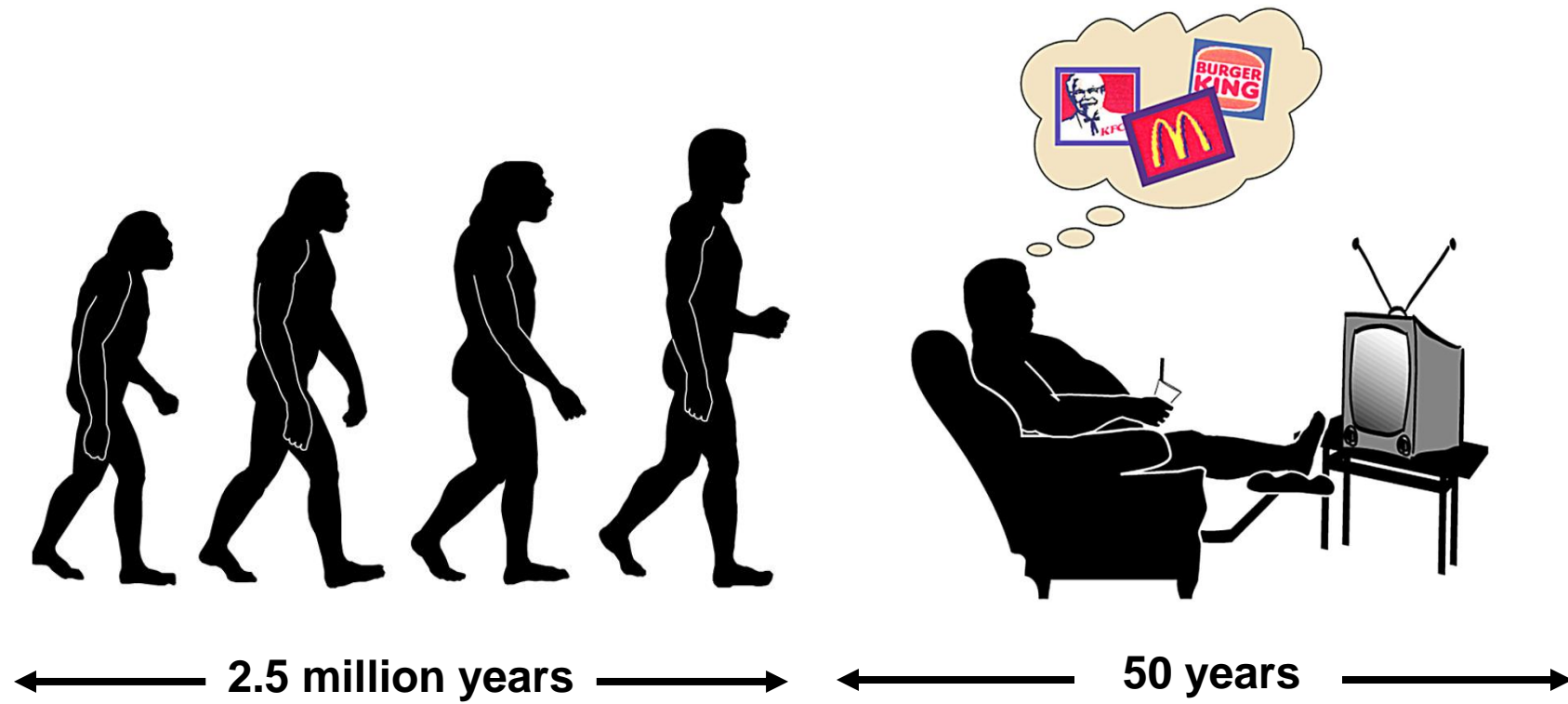
ALL IMPACTING:

- **FAMILY MEALS**
- **FAMILY LIFE**
- **FAMILY TIME**



Family Meals

- **Cheaper than eating out or individual meals**
- **Families that have daily meals together eat:**
 - Higher amounts of: calcium, fiber, iron
 - Less saturated fat
 - Eat more fruits, vegetables, and grains
- **Kids who eat meals with their families:**
 - Higher scholastic scores
 - Happier
 - Less likely to smoke, use marijuana, or drink alcohol

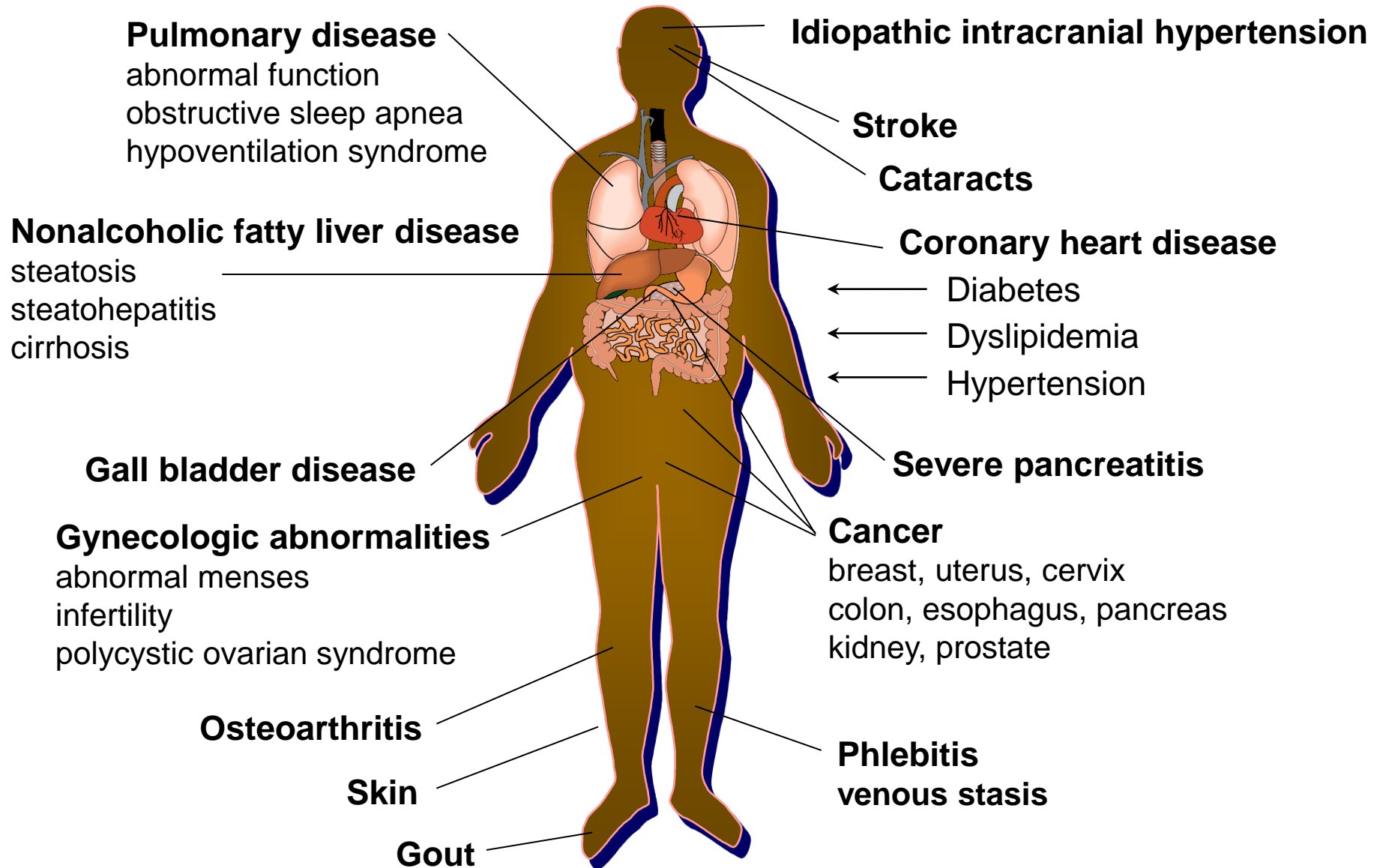


Borrowed from R Unger

Predictive Value of Pediatric Obesity

- Obesity in childhood predicts obesity as an adult
 - 50th – 84th %ile: 5x more likely to be overweight as young adult
 - 20x for 75th – 84th %ile
- Even younger?
 - Review of all studies 1970-1992
 - 26-41% of obese preschool children became obese adults
 - 42-63% of obese school-age children became obese adults
 - Risk increases with age
 - Serdula, Prev Med 1993;22
 - Risk increases with obese parents
 - Whitaker, NEJM, Sept 25, 1997

Obesity-related health risks in ~~Adults~~ Children



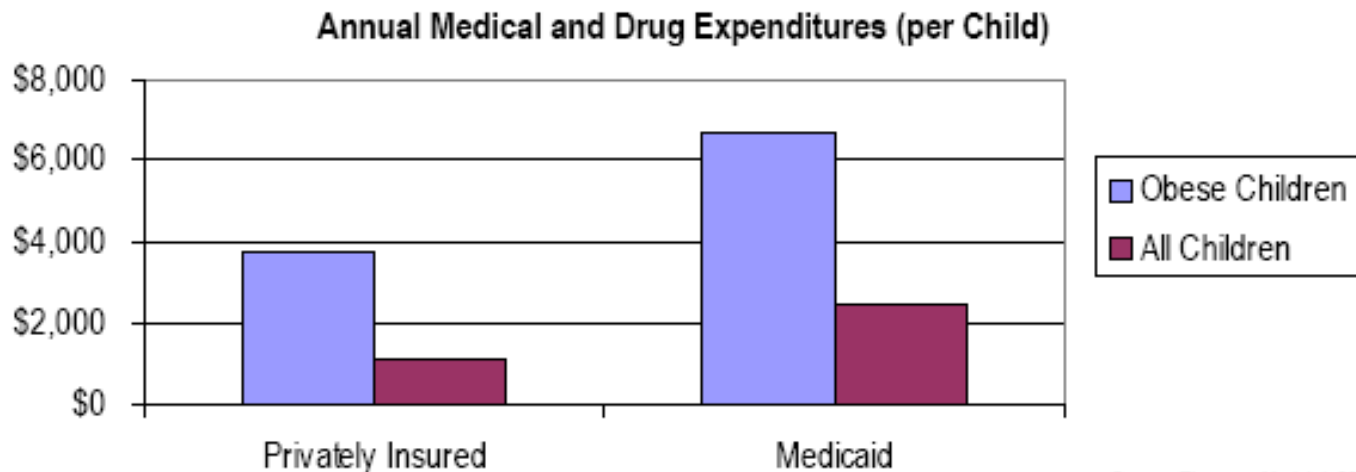
Life Expectancy

- 2/3rds of adults are overweight or obese
- 1/3 of children are overweight or obese
- Average life expectancy today= *78 years*
- Life expectancy of our children= *74 years*



Weight-related Pediatric Comorbidities

- Costs
 - Medical costs of treating obesity-related disease in US= \$147 billion (CDC, 2008)
 - Costs doubled from 1998 to 2008
- Pediatric obesity costs (Marder, Thomson Medstat, 2005)
 - Obese children with Medicaid have higher health costs than those with private insurance
 - Cost of childhood obesity: \$14 billion
 - Obese children 2-3x more likely to be hospitalized



Impact on Employers

- Impact on workplace not well understood
- Average per capita health insurance claims costs in 2008 (IBM Corporation):
 - \$1640 for non-obese child
 - \$2,907 for obese child
 - \$10,789 for child with type II diabetes.
- Average claims cost for children with type II diabetes exceeded level of the average claims cost for adults with type II diabetes (\$8,844)
- Lost productivity from children's needs for parental caregiving

Complications of pediatric obesity in adulthood

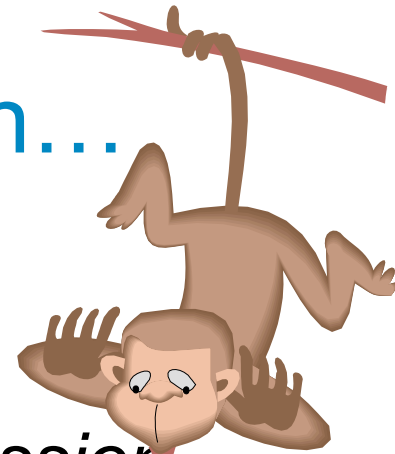
- Cancer
 - Direct link or shared risk factors?
 - Colon, breast (postmenopausal), endometrium, kidney, esophagus associated with obesity
 - Gallbladder, ovaries, pancreas possible
 - Obesity and physical inactivity
 - Small weight loss can provide benefits
 - 2002: 41,000 new cases in US attributable to obesity (3.2% of new cancers)
(www.cancer.gov)

Pediatric obesity and all cause mortality

- Must A, et al. *NEJM* 1992
 - Obese adolescence associated with increased risk of multiple comorbidities in adulthood, even if the obesity did not persist
- Must, A. et al *Amer J of Clinical Nutrition*. 1996
 - Long-term health compromised by obesity in adolescence
 - Effects likely due to persistence of obesity into adulthood and perhaps to direct effect of adolescent weight on fat distribution
- Franks et al, *NEJM* 2010: Study of American Indian children (N=4857)
 - Rates of death among children in highest quartile BMI more than double those in lowest quartile

More than just a physical condition...

- Fewer friends
- Experience rejection from peers
 - *Name calling, teasing, physical aggression, withdrawal of friendships, rumors/lies **
- Least liked compared to other children **
 - *Preference for non-overweight friends is 41% greater than it was in 1961*
- Quality of life comparable to a child with cancer ***



*Janseen, I. (2004). *Pediatrics*

**Latner, J. & Stunkard, A. (2003). *Obesity Research*

***Schwimmer J (2003) *JAMA*

Physicians View Obese Patients as:

- **Noncompliant**
- **Lazy**
- **Lacking self control**
- **Weak-willed**
- **Unsuccessful**
- **Unintelligent**
- **Dishonest**



Campbell et al., 2000; Hebl & Xu, 2001; Kristeller & Hoerr, 1997; Maiman et al., 1979; Price et al., 1987

Social Discrimination

“It seemed like the last form of open discrimination... I started walking down the street and within 10 seconds, a trio of people looked at me, snickered... started pointing and laughing in my face.”

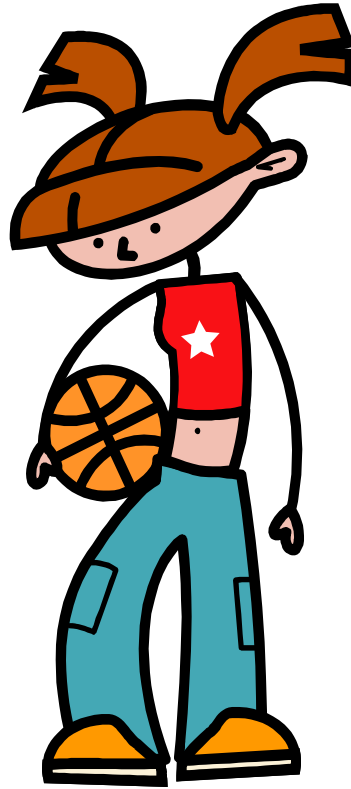
-Tyra Banks, 2005



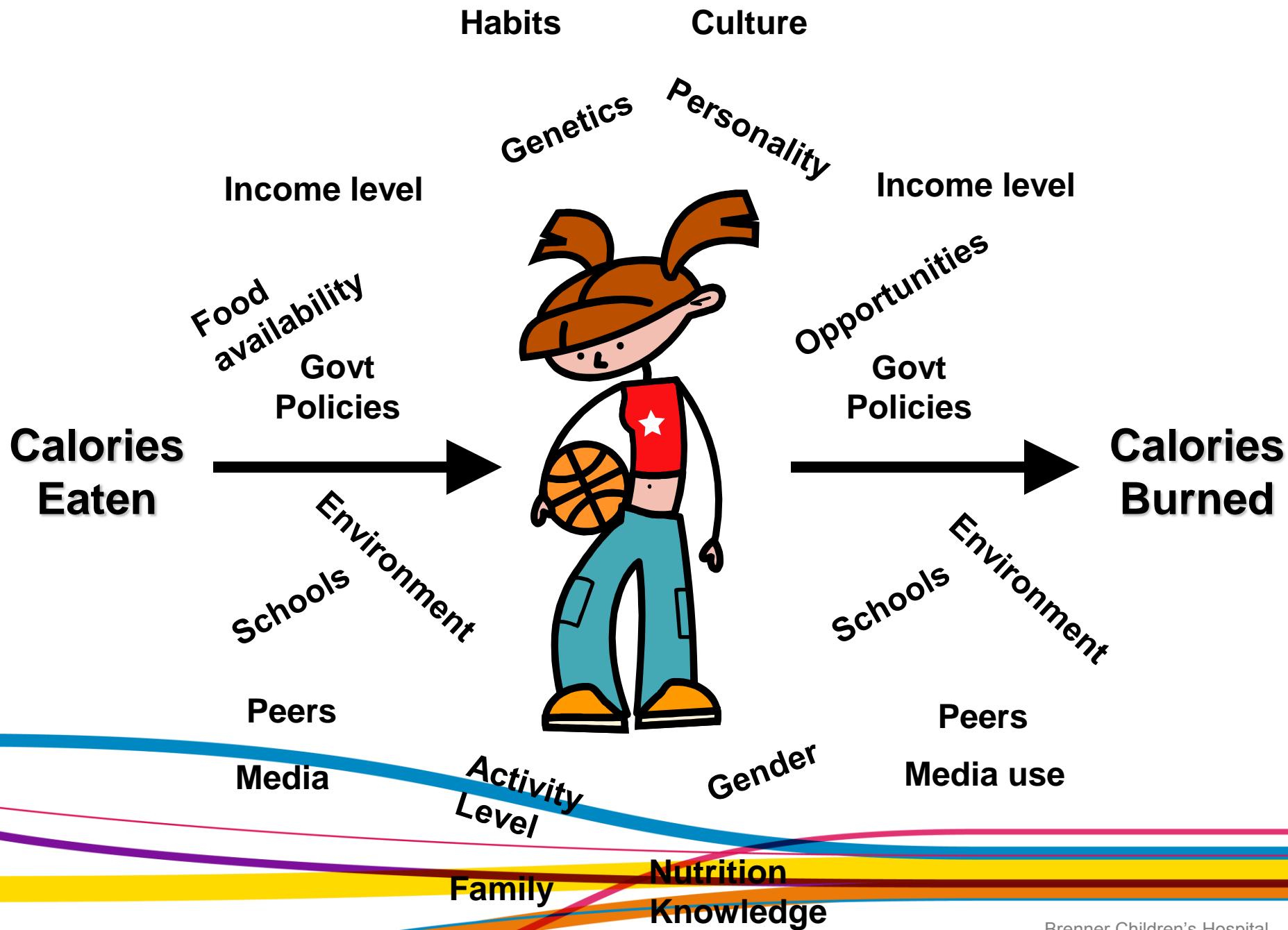
**“For every complex problem
there is an answer that is clear,
simple, and wrong.”**

-HL Mencken

**Calories
Eaten**



**Calories
Burned**



“Obesity is a complex disease...

It will take a complex approach”

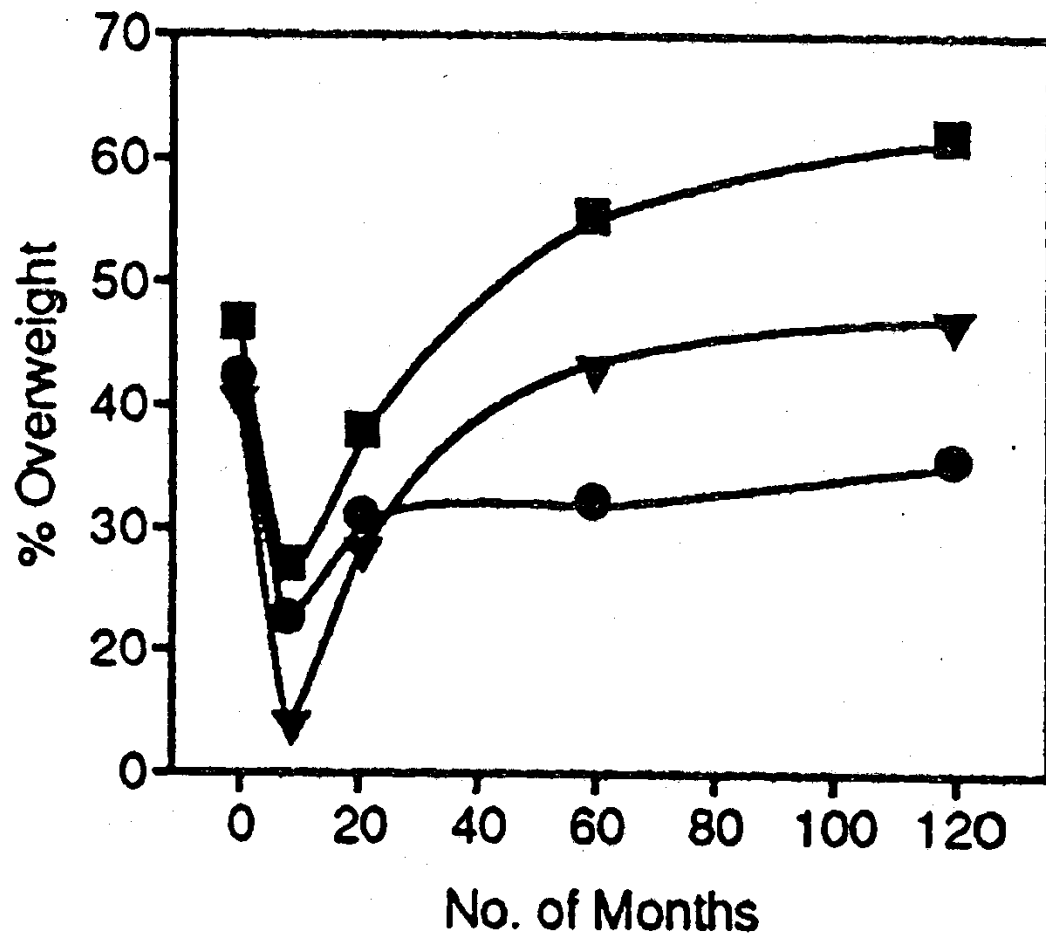
- Bill Dietz, MD, PhD

Evidence for Treatment

- Cochrane 2009*
 - Limited quality data
 - Behavioral interventions produce meaningful reduction
 - Determinants for behavior change
 - Improve clinician-family interaction
- 2007 Expert Recommendations**
 - Effective therapies poorly defined, used both available evidence and expert opinion
 - Staged treatment: family-focused, patient-centered communication, target behaviors

*Cochrane Database, 2009, Issue 1

**Pediatrics 2007;120 Supplement



← Control

← Child Alone

← Child & Parent

Fig 1.—Changes in percent overweight for children randomized to child and parent (group 1) (circles), child alone (group 2) (triangles), or nonspecific control (group 3) (squares) groups. Treatment was offered for the first 8 months, with follow-up measurements collected at 21, 60, and 120 months.

Epstein, LH et al.
JAMA 1990

What is Behavioral Therapy?

- Behavioral therapy, Behavior modification, Cognitive behavioral therapy
 - Awareness of behaviors and emotions
 - Goal oriented, time-limited
 - Changing a person's behaviors to improve their life and health
 - Stopping unhealthy behaviors
 - Developing healthy behaviors
- **NOT** Psychotherapy



Principles of Behavioral Therapy

- Self-monitoring: gain awareness of behaviors
 - Food records: level of hunger, setting
 - Activity: sedentary and physical
- Stimulus control: altering external environment
 - Changing food in home/in-sight
 - Restrictions on TV time
- Goal setting & contracting
 - Measurable and realistic
 - Frequent
 - Short- and long-term

Parent Participation

- Evidence for including parent strong*
 - Significantly better with parent in treatment
 - Fine print: Parent target of treatment also
- Parents as exclusive agents of change
 - Theory: Modeling, change in environment, translation of behavior change by parent
 - Evidence treating parent alone more effective vs child alone (6-12 year olds)**
 - Parent-only as effective as family-based, both better than control***

* Epstein, multiple studies

**Golan M, Weizman A. *J Nutrition Education* 2001

*** Janicke et al *Arch Pediatr Adolesc Med.* 2008

Other Principles of Treatment

- Patient-centered communication
 - Attempts to change effective only if family recognizes and willing to change
 - Clinician assists in building motivation
 - Approaches
 - Stages of Change
 - Motivational Interviewing
- Parenting style
 - Recognition and intervention
 - Useful in prevention and treatment
- Weight bias

Effectiveness of Weight Management Interventions in Children: US Preventive Services Task Force

- Available research: 4-18 years of age
- Most effective: Comprehensive behavioral interventions
 - Moderate (26-75 hours) to high (>75 hours) intensity
 - Few harms with behavioral approach
 - BMI 95th- 97th percentile
- Medications: combined with behavioral interventions
 - More adverse effects, no studies of weight after stopped

WHY BARIATRIC SURGERY?

- NIH Consensus Statement
 - Success in most cases of non-surgical therapy is only temporary
 - Dietary regimens fail to provide long-term weight control in severely obese patients
- Some evidence of safety and efficacy
 - VERY FEW STUDIES
 - NOT CONTROLLED
 - NOT RANDOMIZED

Criteria

- Failed 6-12 months of multidisciplinary, physician supervised weight management program
- Demonstrate commitment
- Parental consent, Patient assent
- Agree to avoid pregnancy for 2 years post-op
- Attained or nearly attained physiologic maturity (SMR IV, girls ≥ 13 years, boys ≥ 15 years)
- Severely obese
 - BMI ≥ 50 with severe or less severe co-morbidity
 - BMI ≥ 40 with severe co-morbidity
 - BMI > 30 with life-altering or –threatening co-morbidity

Co-morbidities

- **Serious co-morbidities**
 - Type 2 Diabetes Mellitus
 - Obstructive sleep apnea
 - Pseudotumor cerebri
 - Metabolic Syndrome
 - Weight related arthropathies which impair physical activity or could cause permanent disability
- **Less serious co-morbidities**
 - Hypertension
 - Dyslipidemias
 - Venous stasis disease
 - Significant impairment in activities of daily living
 - Intertriginous soft tissue infections
 - Stress urinary incontinence
 - Gastroesophageal reflux disease
 - Non-alcoholic Steatohepatitis

Real Life Programs

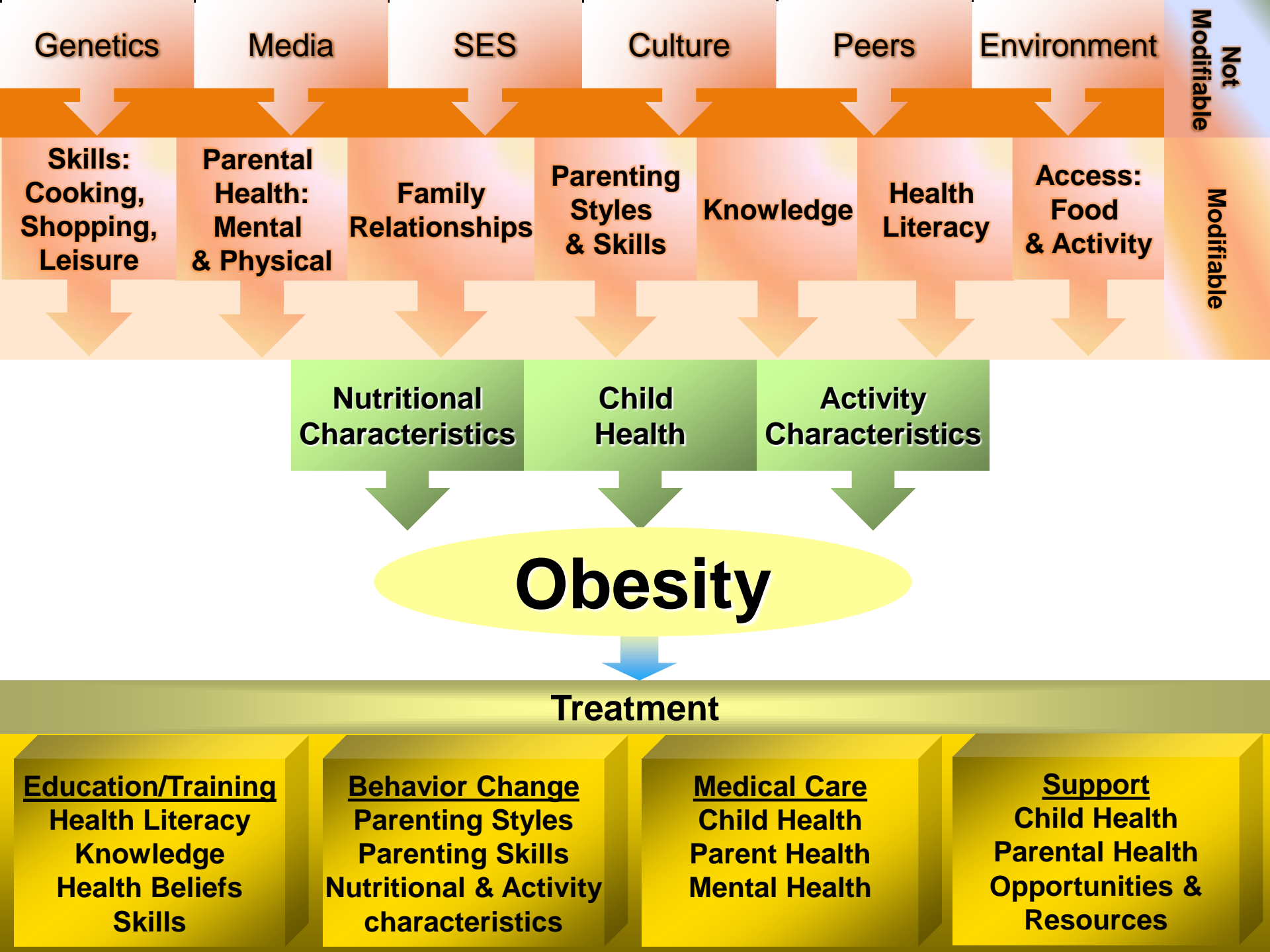
- Sothern, Committed to Kids, LA, JADA, 2002
 - Year long, weekly, community-based with physician
 - 13.1 – 17.7 years old, BMI 32.3
 - BMI reduced from 32.3 to 28.2 at 1 year
- Kirk, Healthworks, OH, Obesity Research, 2005
 - Interdisciplinary, family based, 5 month intensive phase
 - 5-19 years old, BMI 35.6
 - Improvements seen in BP, cholesterol, insulin, fitness; BMI
- Skelton, NEW Kids Program, Obesity, 2008
 - Open-ended clinic
 - 2-18 years of age, BMI 37 kg/m², many comorbidities
 - 2/3rds saw improvement in weight status

Real Life Programs

- Savoye, Bright Bodies, Yale, CT, JAMA, 2007*
 - Pediatric Obesity Clinic, twice a week for 6 months, then every other week for 5 months
 - Mean age 12 years, BMI 35.8 with control group
 - BMI decrease of 1.7, with improvement in insulin resistance and body fat percentage vs. control
- Skelton, The Obesity Society, Poster, 2010
 - Brenner FIT Clinic, WFUSM, year long program
 - Mean age 11 years, BMI 37.8 kg/m²
 - 52% decreased BMI, 74% improved weight status (BMI z-score)

Paradigm Shift

- **Present**
 - **Diet and Exercise, genetics, slow metabolism**
 - **“Their fault”, “lack of willpower”, “lazy”**
- **Future**
 - **Cancer**
 - **Unhealthy habits into healthy habits**
 - **Journey, not a destination**
 - **Family**



Brenner FIT

- Multidisciplinary

- Pediatrician
- Dietitian
- Family Counselor (LCSW, LMFT)
- Physical Therapist
- Social Worker

- Multi-dimensional

- Behavioral approach
- Motivational Interviewing
- Family-centered
- Individual & Group
- Outcomes and Satisfaction

- Multi-component

- Kohl's Family Collaborative (Community)
- Mejor Salud Mejor Vida (Hispanic Outreach)
- TeleFIT (Telemedicine)
- Bariatric surgery



Joseph Skelton, MD
Director



Gail Cohen, MD
Pediatrician



Dara Garner-Edwards
Family Counselor



Christine Jordan
Family Counselor



Stacy Kolbash
Dietitian



Katie Boles
Dietitian



Sherry Frino
Physical Therapist



Megan Irby
Exercise Specialist



Lori Busby
Family Support Specialist



Sara Ebbers
Program Coordinator



M. Angelica Guzman
Case Manager



Deborah Pratt
Administrative Assistant



Be FIT with Brenner

Brenner FIT Families in Training

At Brenner Children's Hospital, we work each day to help children grow into strong, healthy adults. By following these tips, you and your family will lead a healthier lifestyle.

- 5** - Eat five servings of fruits and vegetables per day
- 4** - Eat together as a family at least four times a week
- 3** - Eat three meals a day-no skipping meals
- 2** - Limit screen time (including computer and TV) to less than two hours a day
- 1** - Aim for one hour of physical activity each day
- 0** - Reduce the number of sugar-sweetened beverages (including soft drinks and juice) to zero

Brenner FIT: Family-Based

- Family-Centered
 - Motivational Interviewing
 - Individualized
 - Understanding and Empathetic
- Family-Focused
 - Family habits primary, individual habits secondary
 - Parenting support
- Touchy-feely
- Expertise

Support

Form collaborative partnerships with Brenner FIT team
Establish connections and build support
Support emotional and psycho-social health of families
Create opportunities for healthy activities
Provide treatment when and where it is needed
Provide links to community resources

Family-Based Treatment

Recognize each family is unique
Guide families to identify unhealthy behaviors
Empower families to set goals for change
Supports families during change process
Equip families for lifelong health

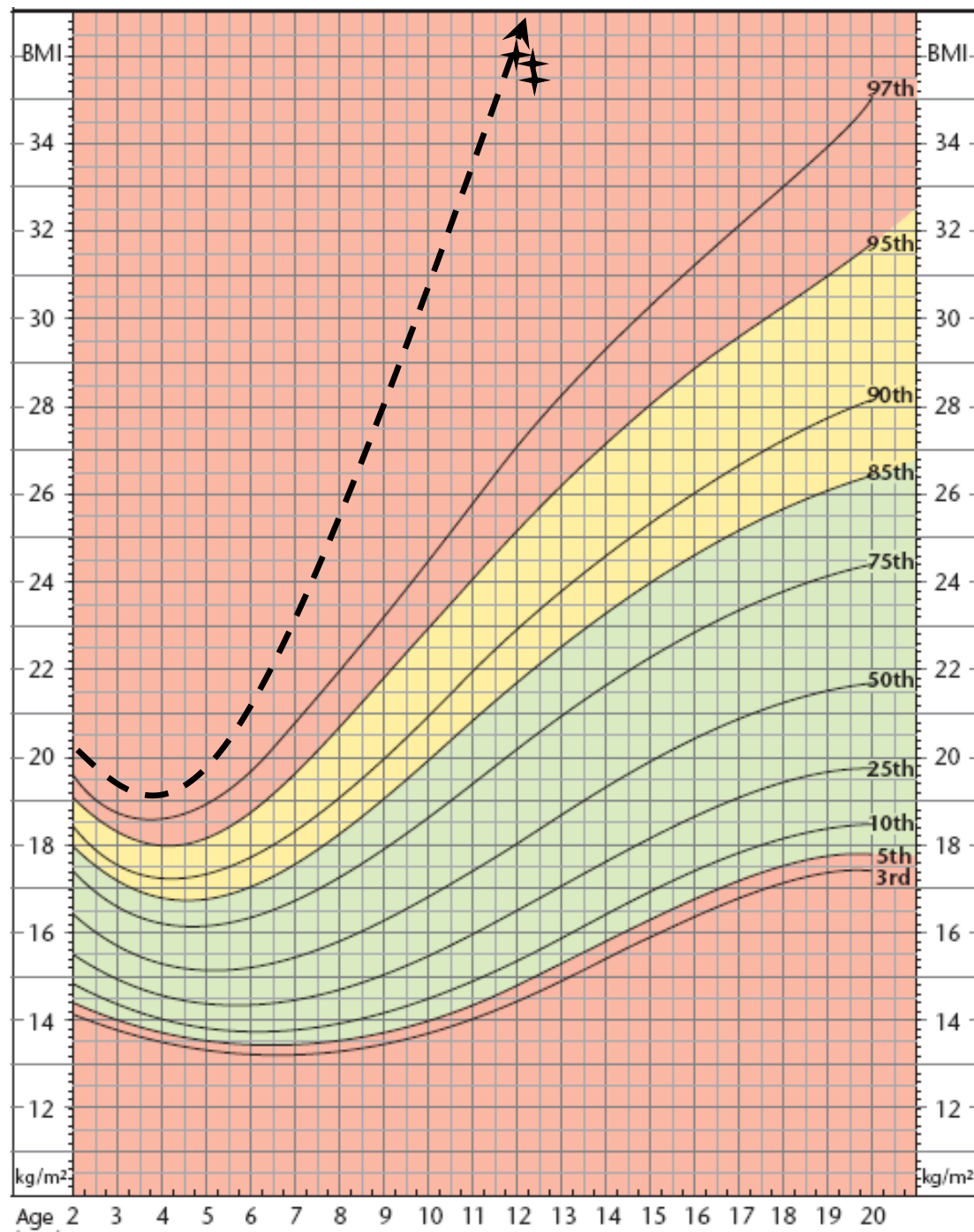
Child & Family

Group-Based Treatment

Engage families in experiential learning
Encourage family-to-family support
Provide targeted and focused education
Build connections within the family
Establish support between families
Foster understanding of health concepts

Brenner FIT: difficult

- Pros
 - Long-term changes
 - Improved family experience
 - Evidence-based into practice
 - Learning curve
 - Expertise
- Cons
 - Staff intensive
 - Incremental success
 - Treatment-intensive: poor understanding
 - Little to no reimbursement

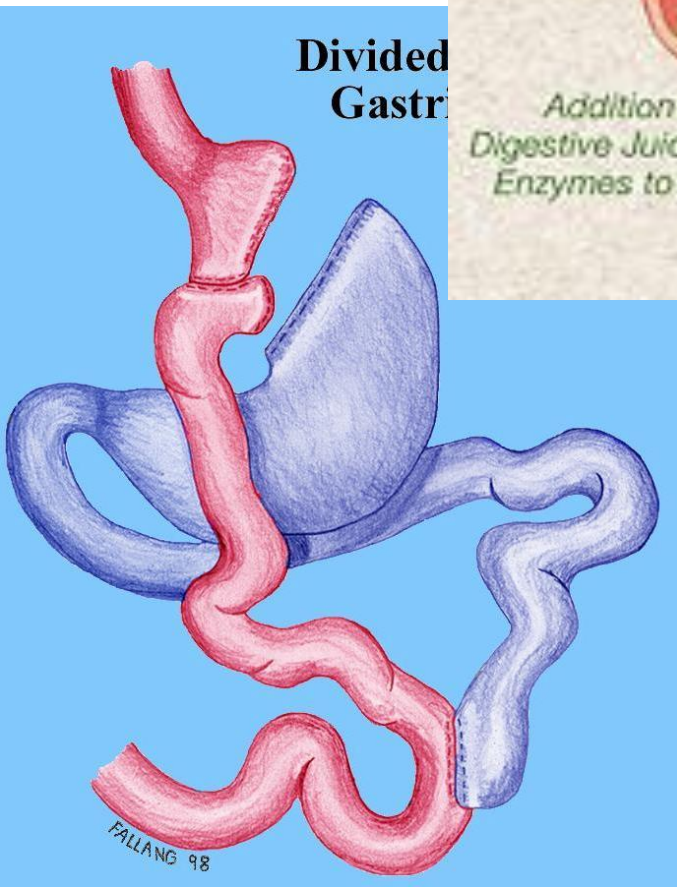
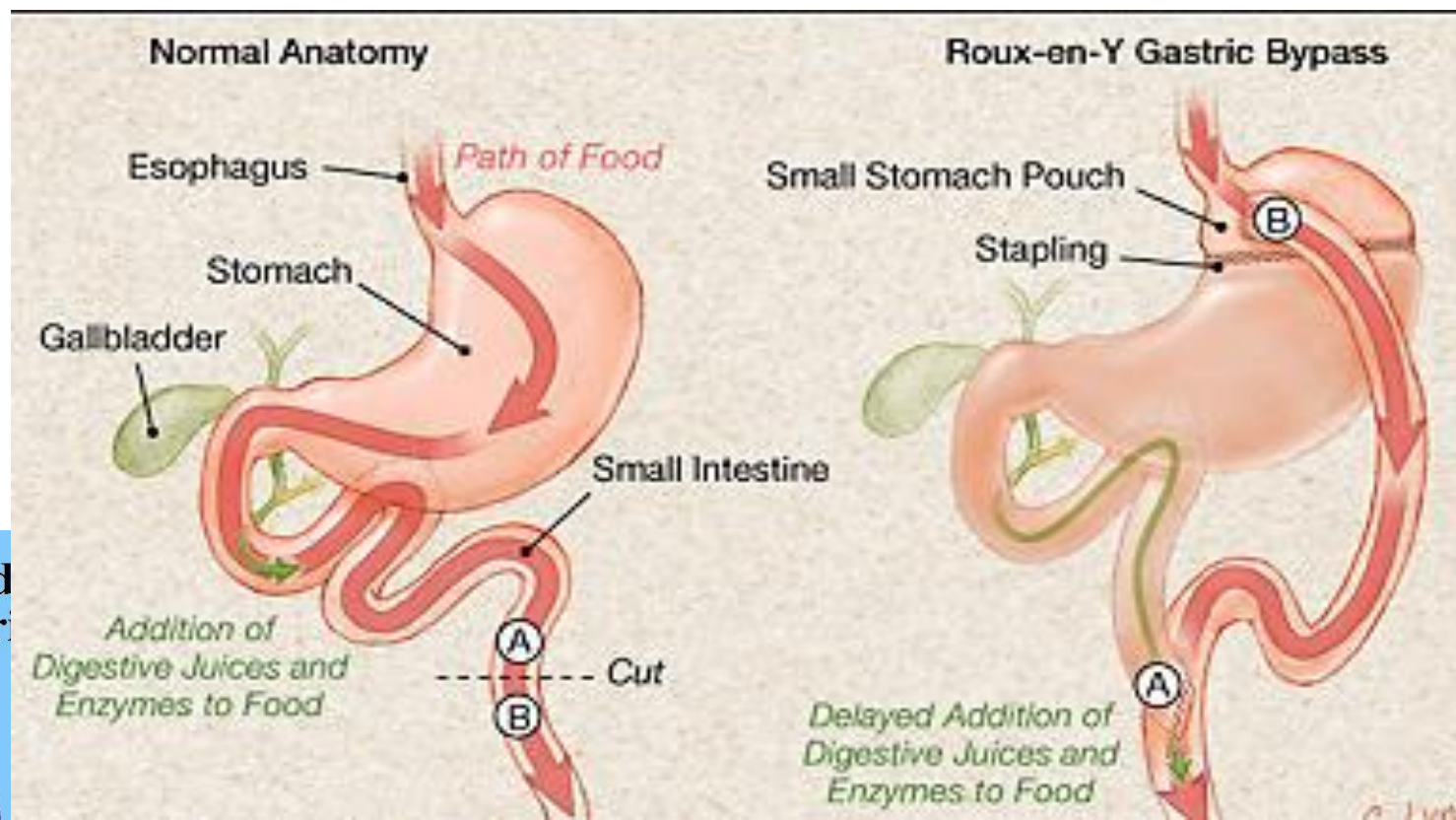


Thank You

Questions

WHAT?

- Roux-en-Y Gastric Bypass
- Laproscopic Adjustable Gastric Banding



Roux en Y Gastric Bypass

Adjustable Gastric Band

